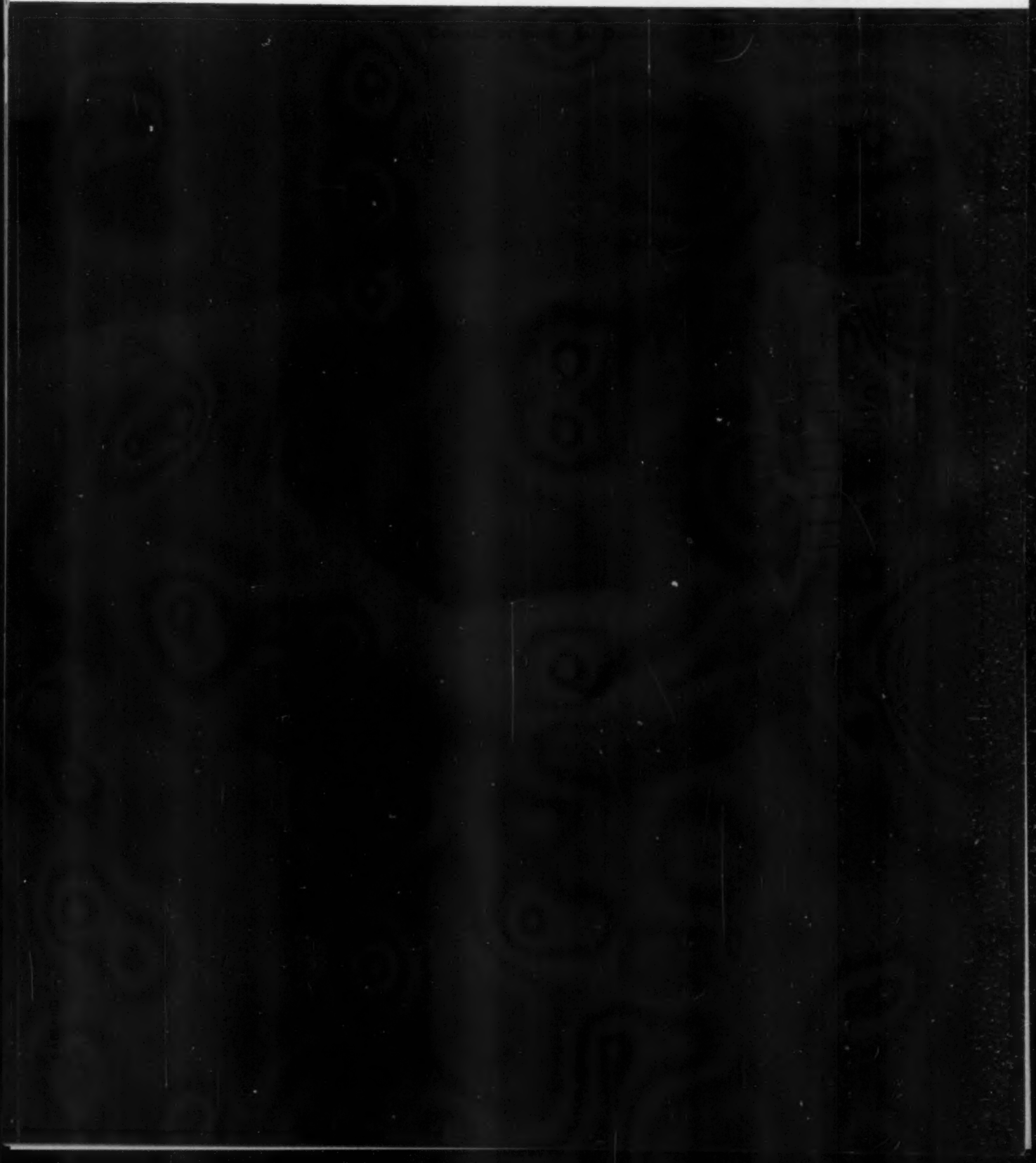
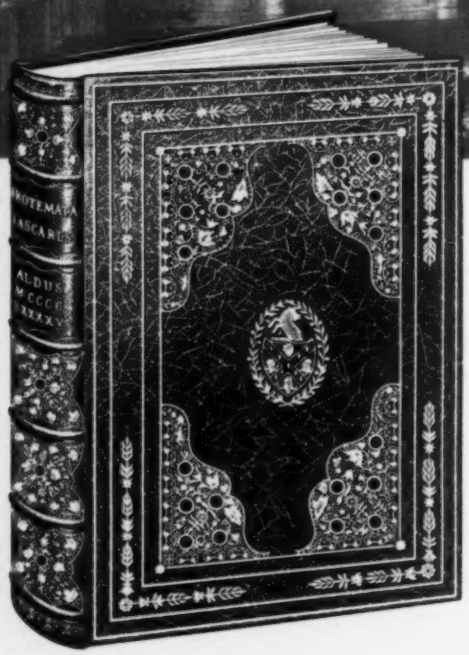
# Design



*PROFILE OF A CREATIVE MIND*

# *Book-Binder*

*Roger Payne (1739-1797) has been credited with the revival of 18th century book-binding. Born at Windsor, he was apprenticed to Pote, the Eton bookseller, before coming to London in 1766 where he set up a small workshop near Leicester Square.*



A brilliant and original artist, Payne is considered by some to have initiated a new style of book-binding.
He was undoubtedly influenced by the beautiful work of Samuel Mearn and other 17th century binders.
Always careful and precise in his choice of leathers, Payne created bindings that were both elegant and durable, while the ornaments—which are said to have been designed by Payne himself—showed excellent taste. His work was executed either in russia leather or straight-grain morocco, usually of dark blue, bright red or olive colours.
Payne introduced small, single tools, and these enabled him to give full expression to original designs. His work is distinguished by an imaginative use of blank space that enabled him to show his beautiful leathers to full advantage

*In I.C.I., creative minds are constantly searching for new products and processes, and for improvements to existing ones.*

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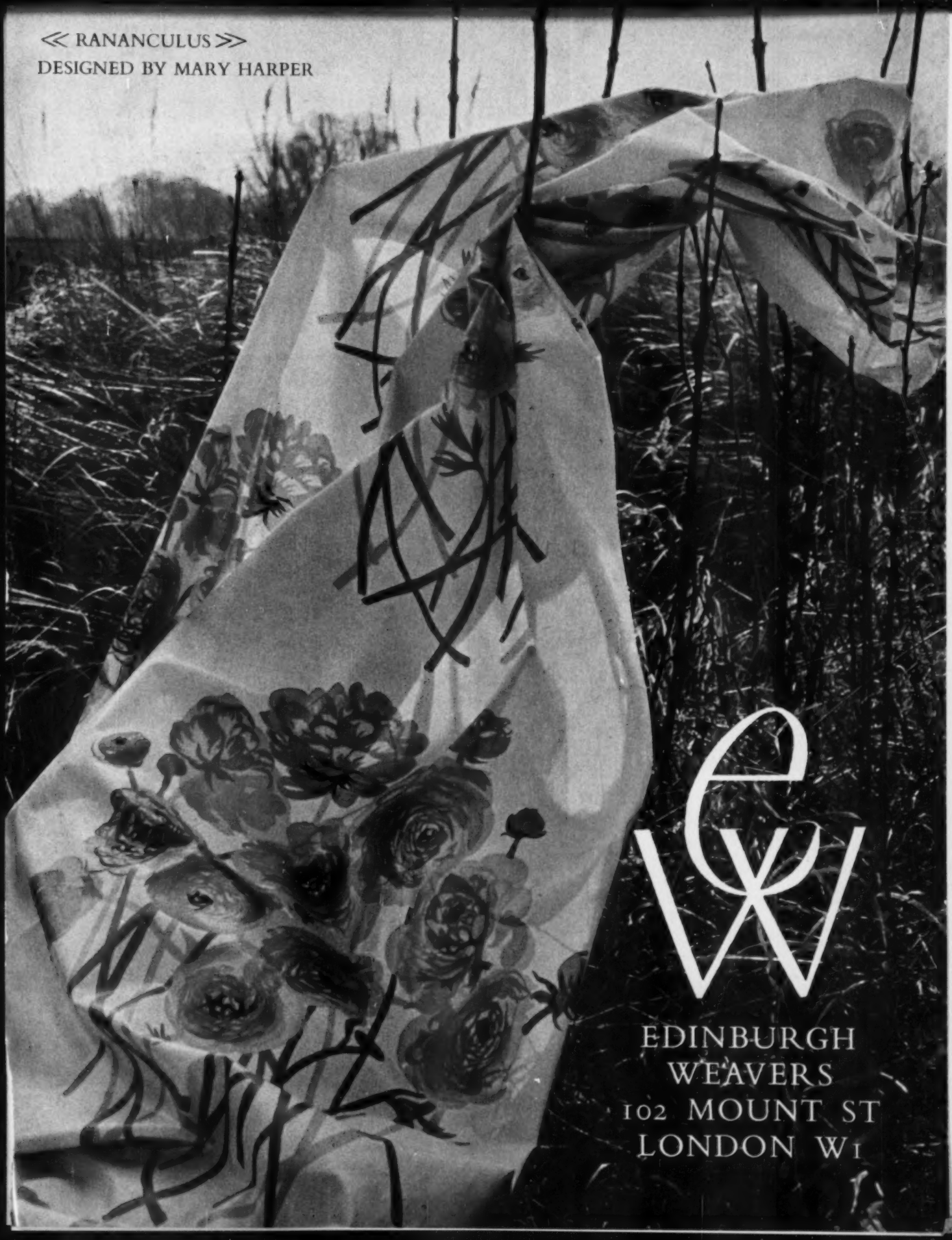
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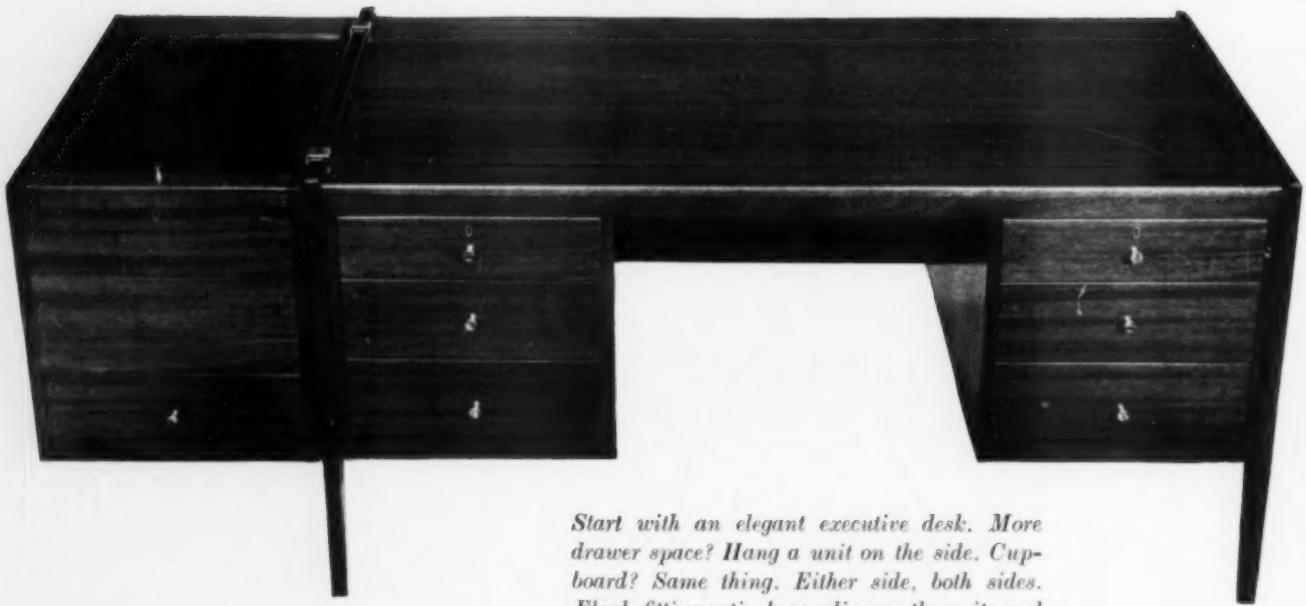
# DESIGN 'C'



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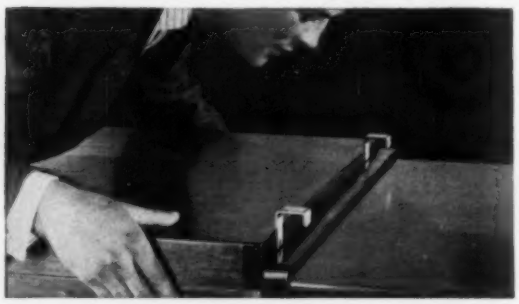

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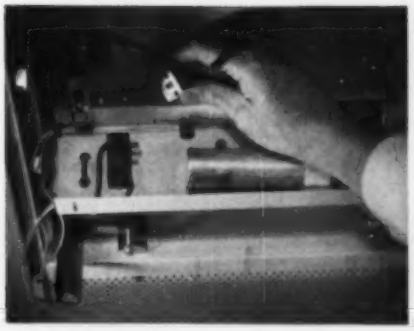
1



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The 707 range of Recessed Modular Fittings incorporates all the refinements necessary for quick fixing and easy maintenance.

Pictorially are shown the salient points:

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2 Plug and socket connection.

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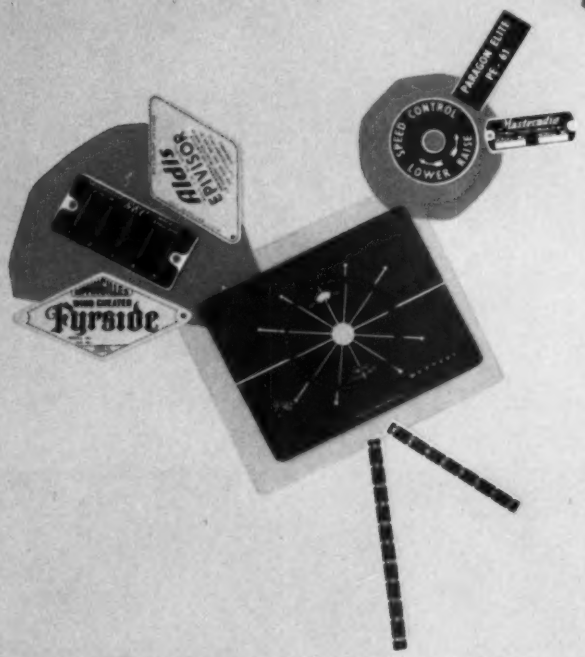


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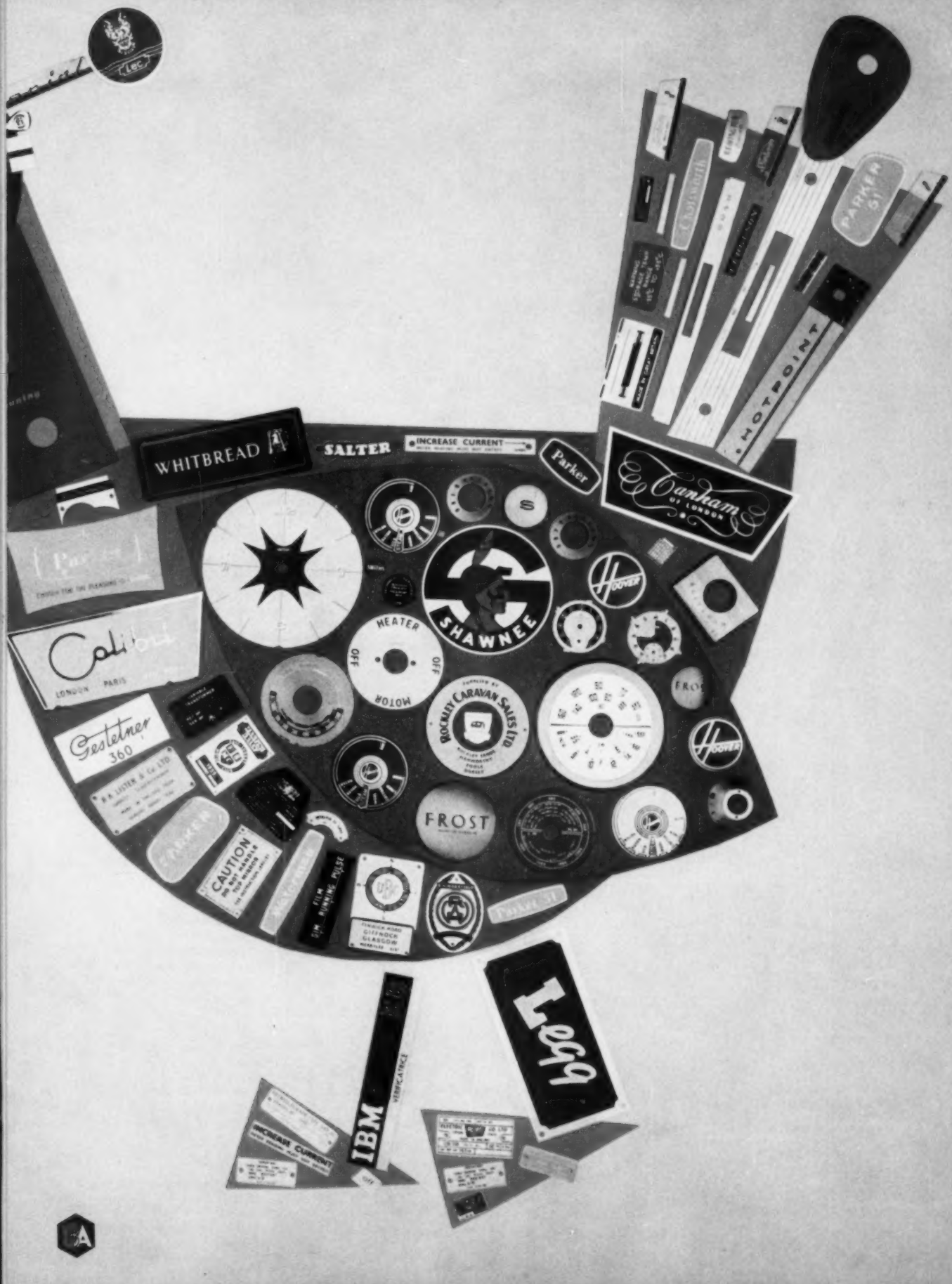
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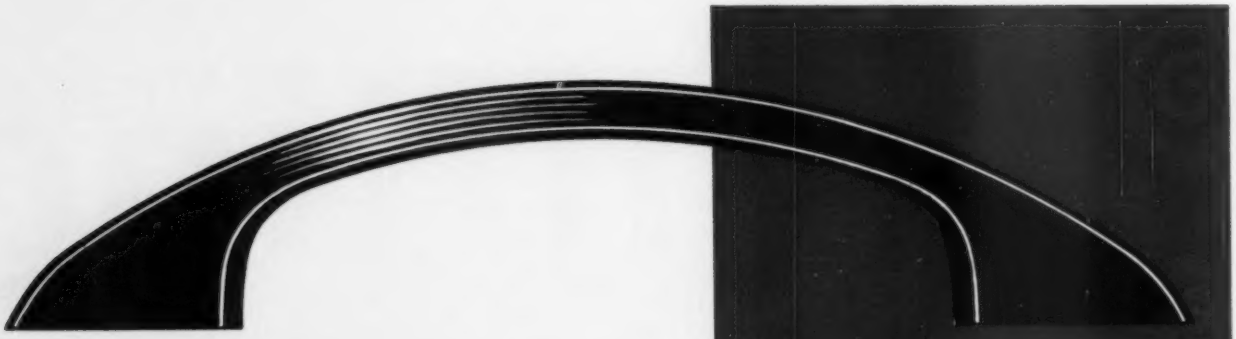

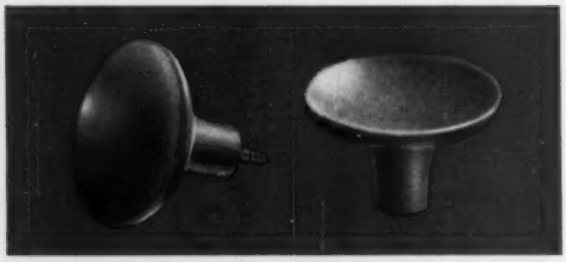

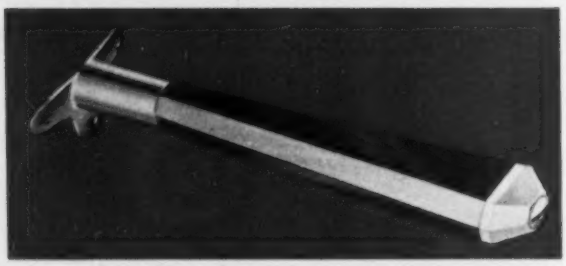

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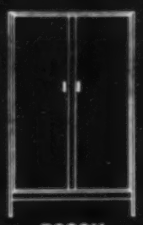
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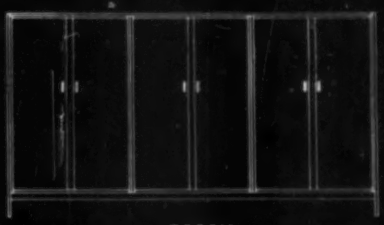
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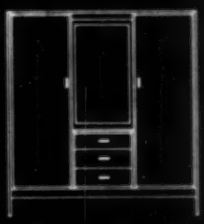
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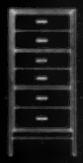
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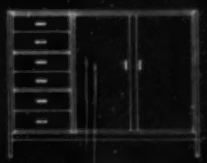
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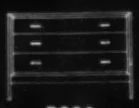
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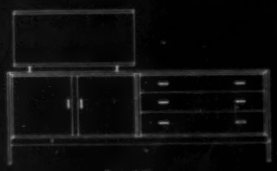
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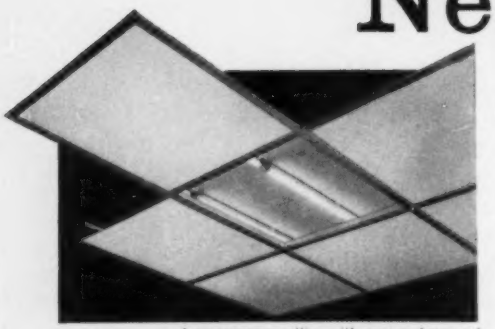
# New light on lighting



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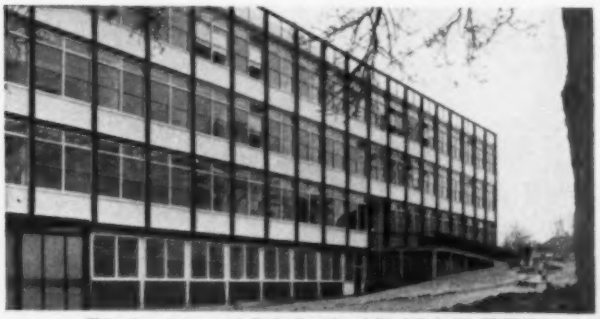

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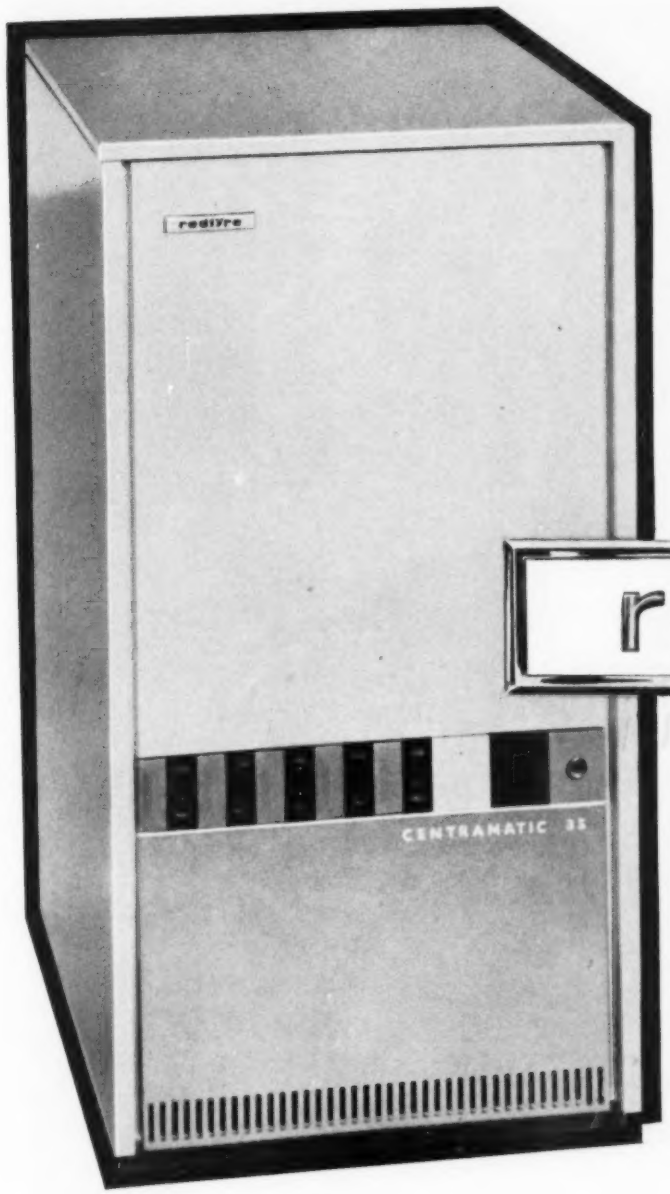


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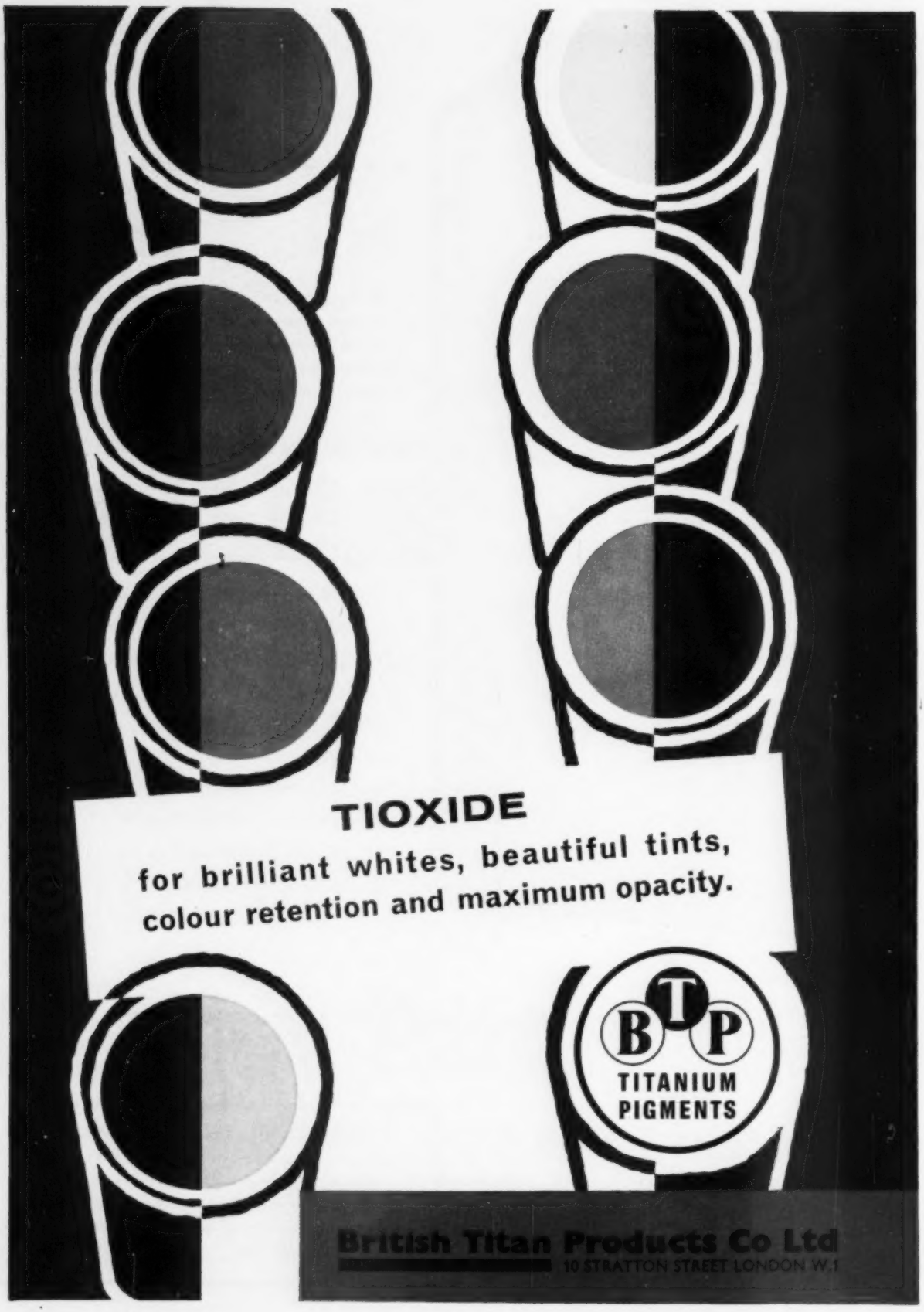
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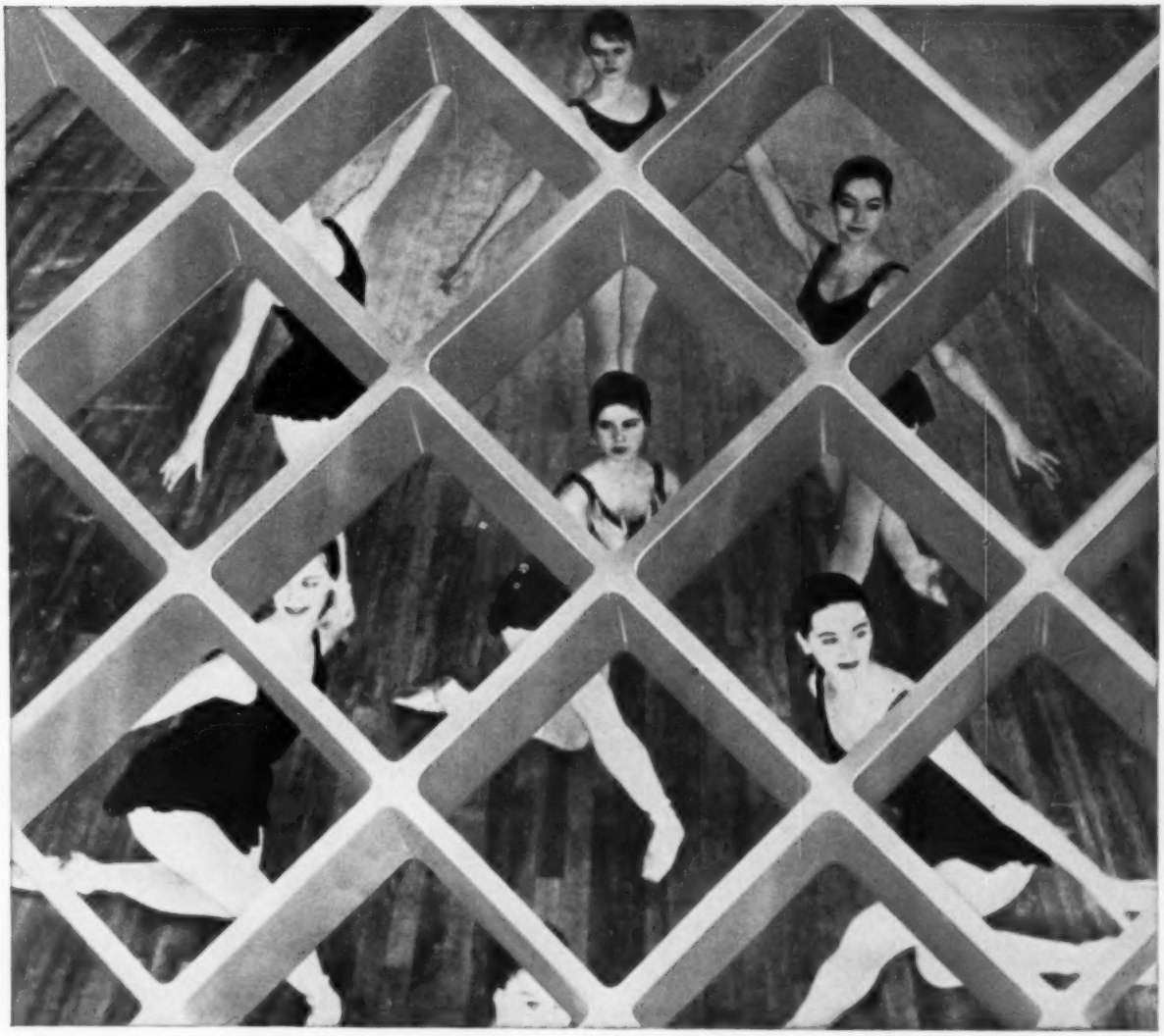

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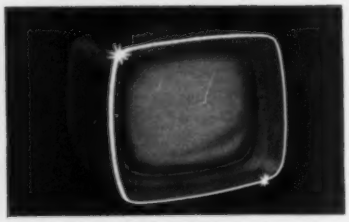

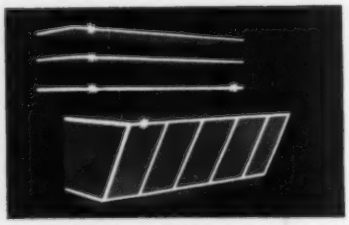

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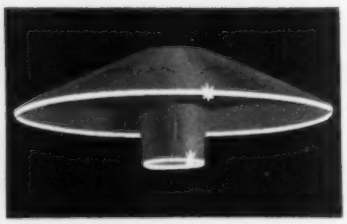

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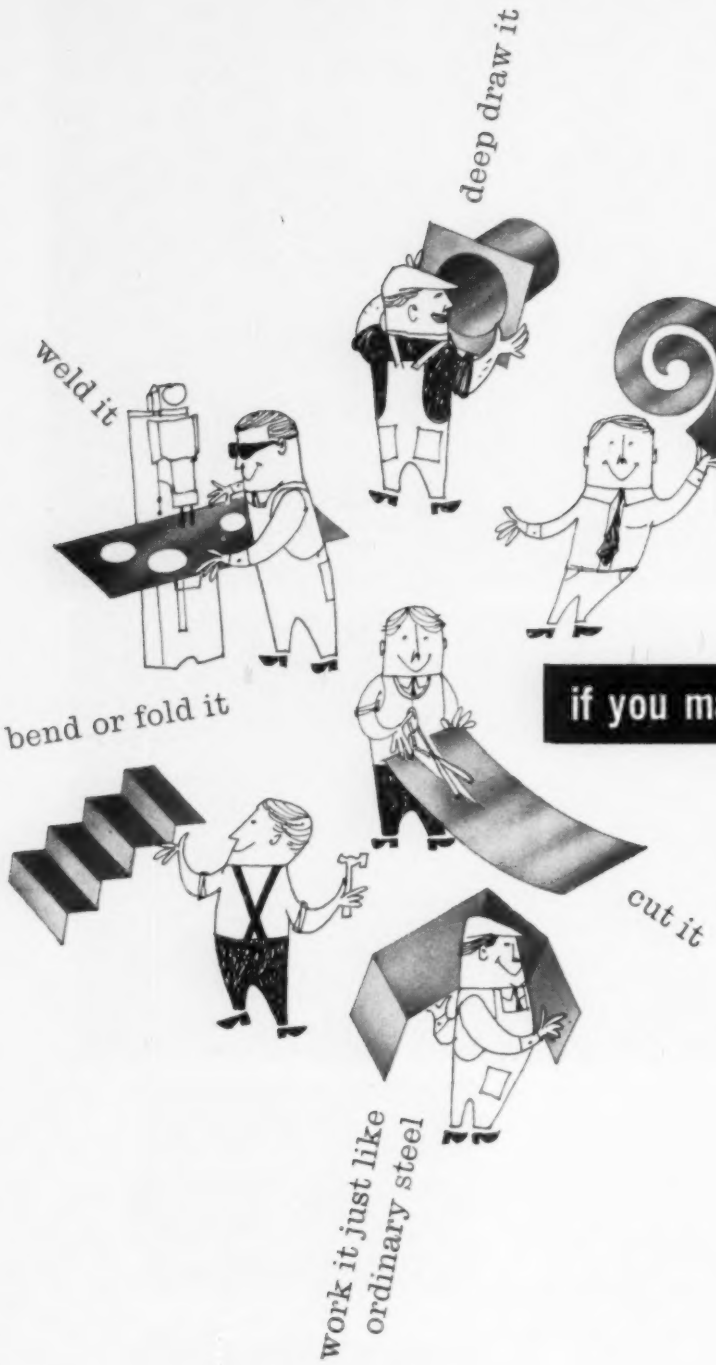


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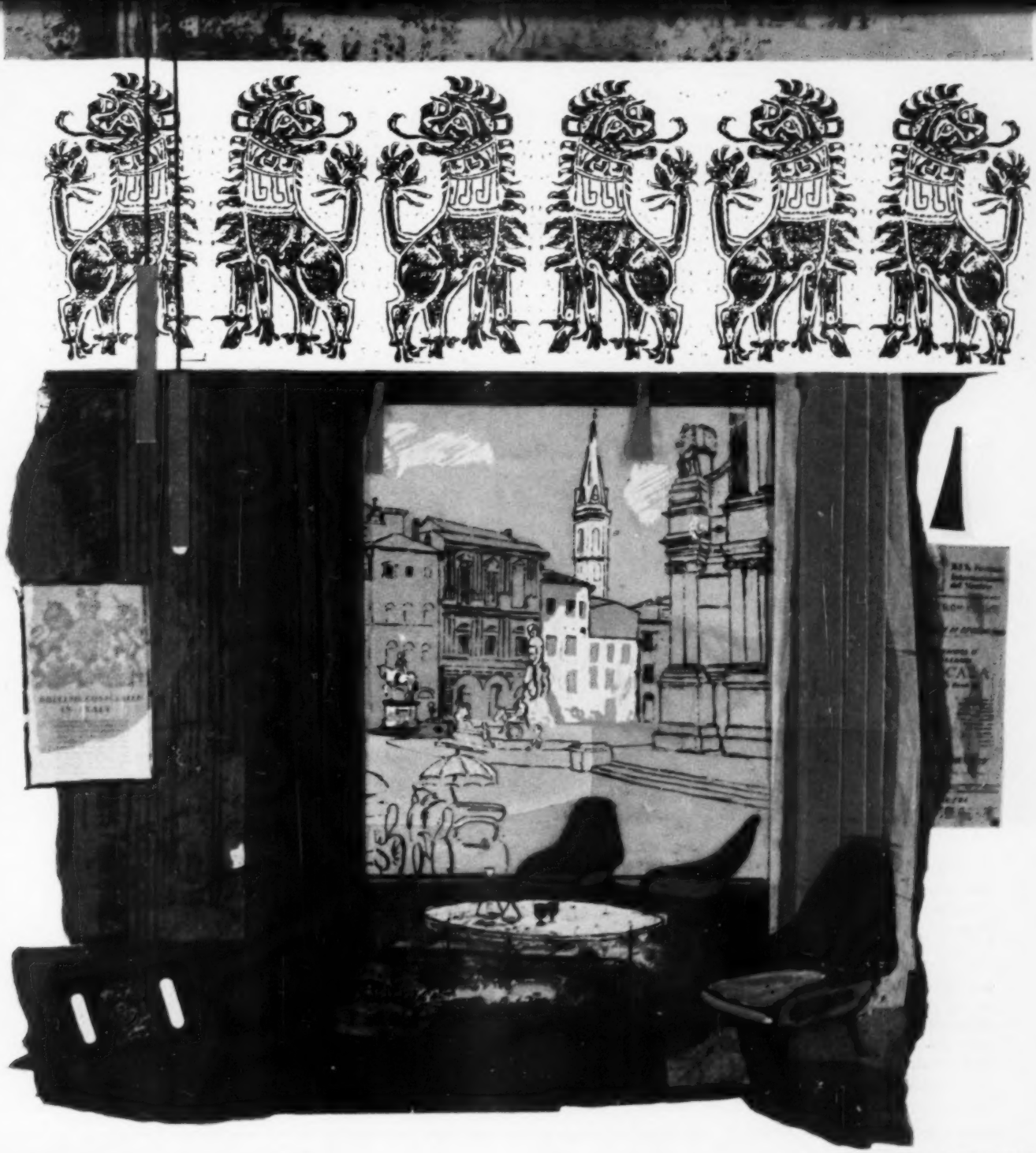

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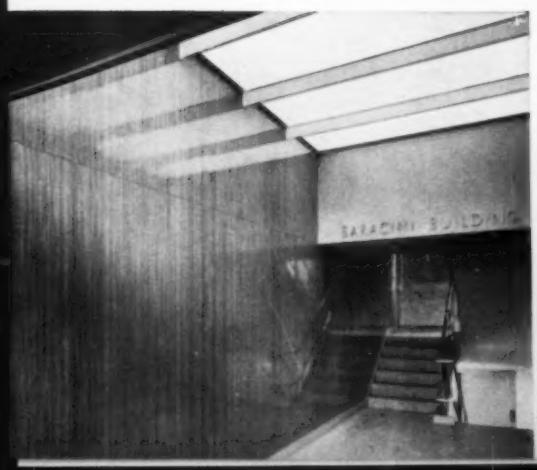


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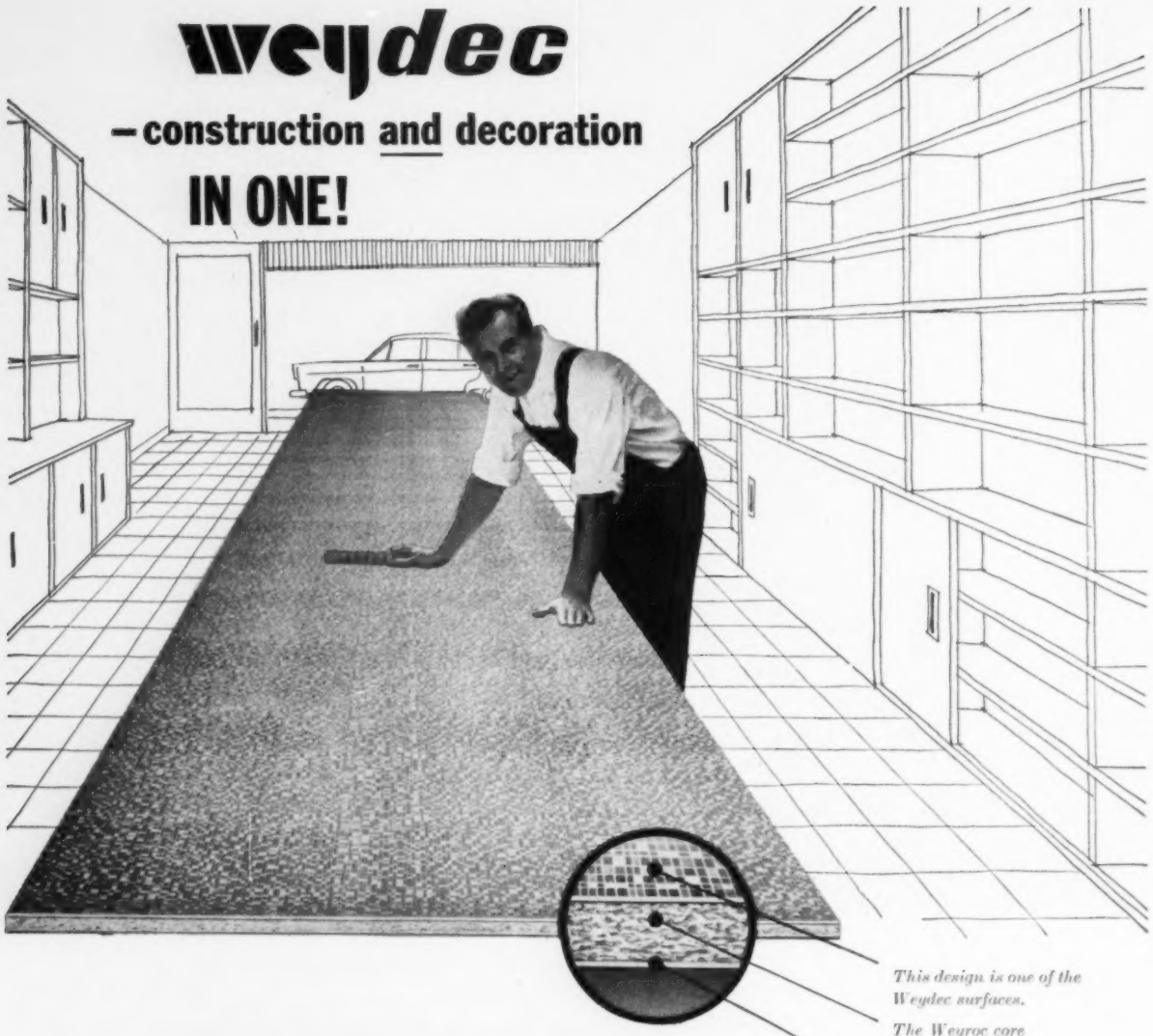

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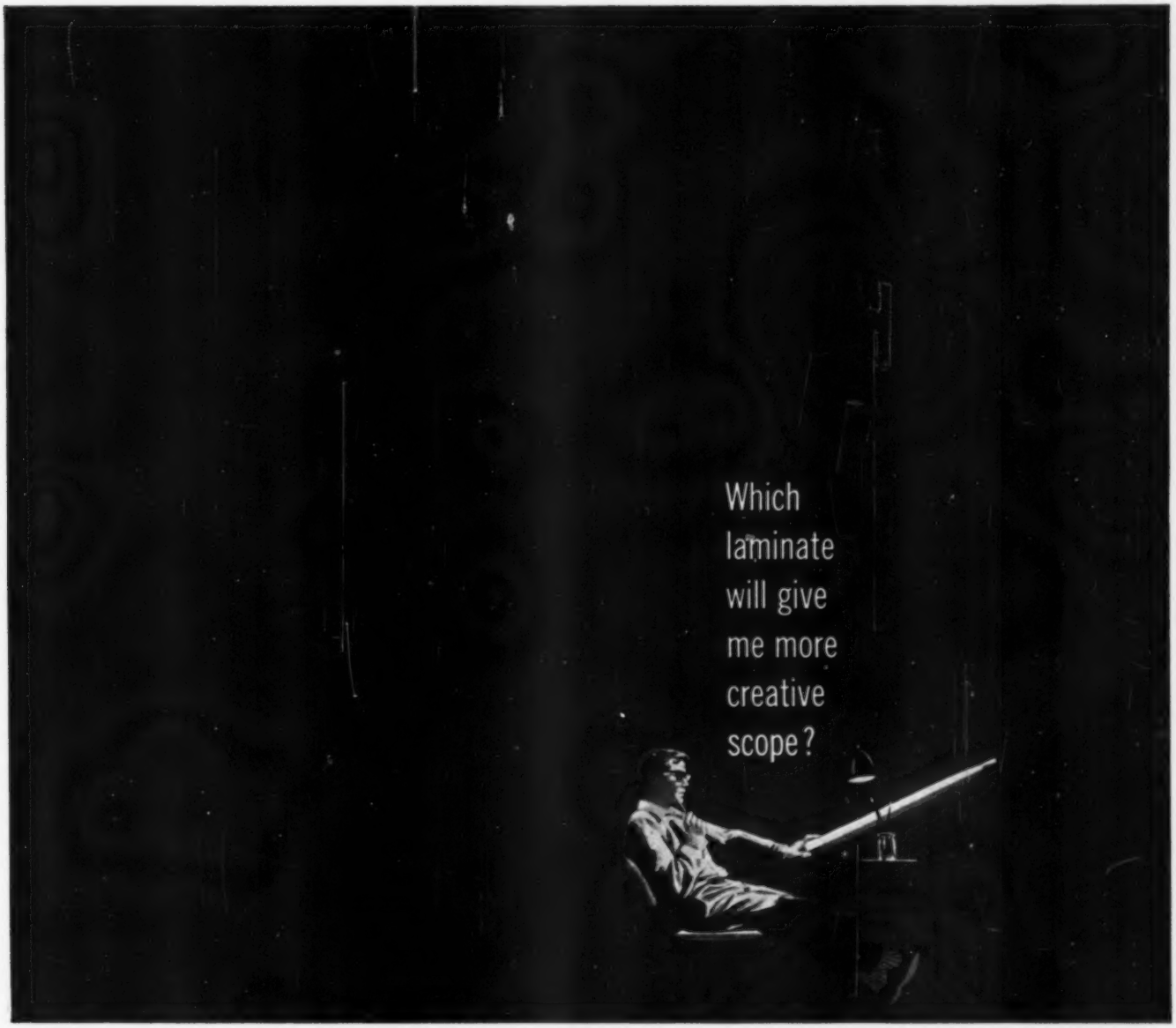


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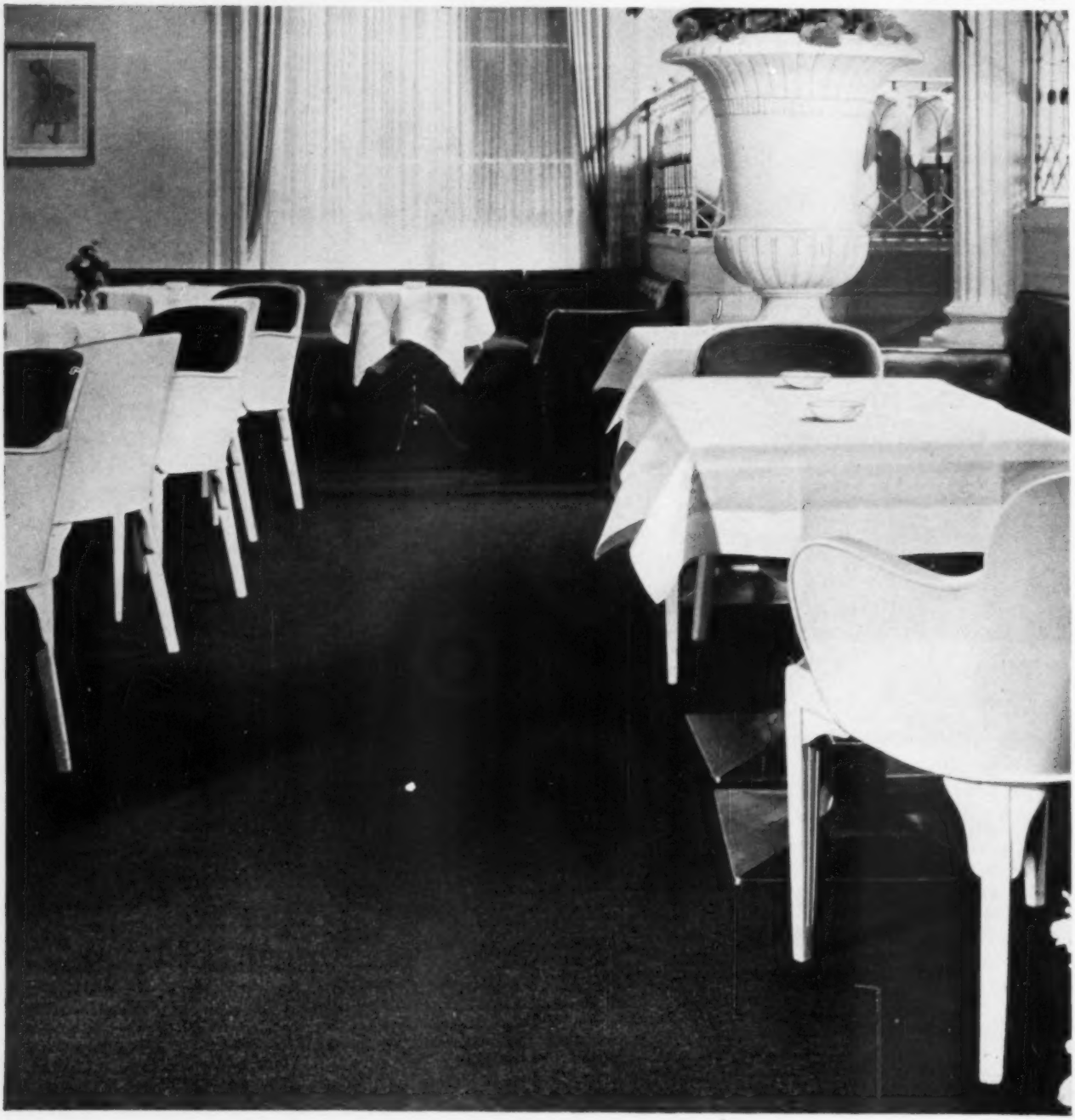
*The Bauer au Lac Hotel, Zurich*



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If you would like more detailed information about the capabilities of carpet in Acrilan 15, write to Chemstrand Ltd., 8, Waterloo Place, London, S.W.1 for list of manufacturers.

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**ACRILAN** ACRILAN 15

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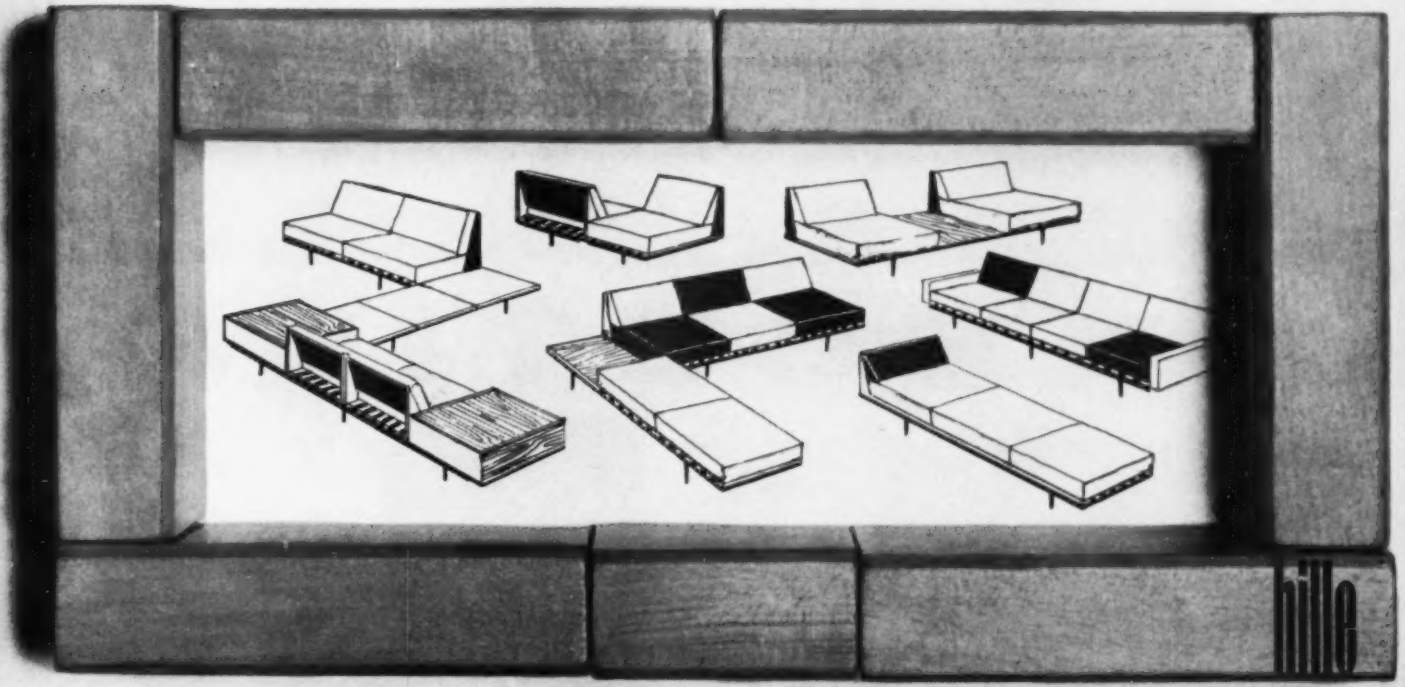

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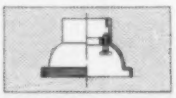
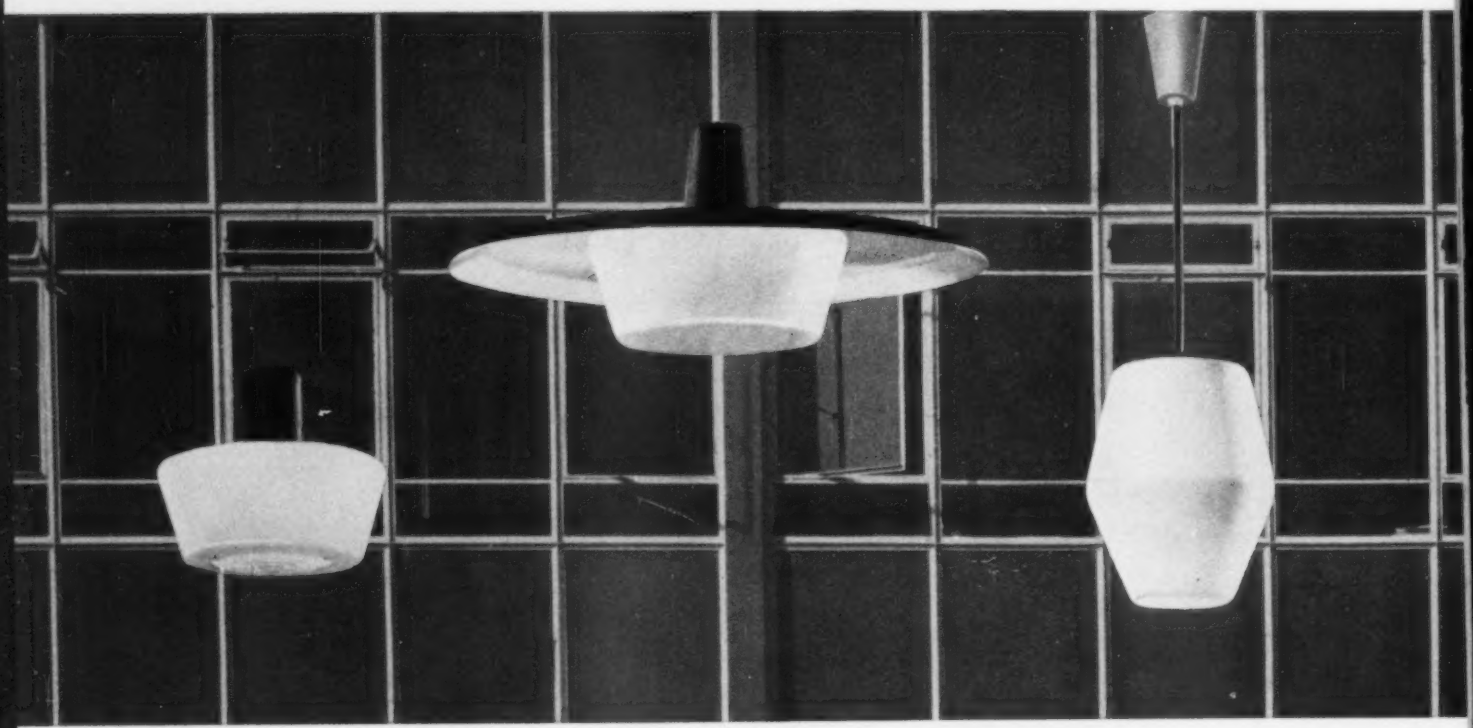


Internal locking screw on lampholder prevents unscrewing when relamping.



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151 July 1961

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A review of the exhibition of work by Morris & Co which is now on tour in this country

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# BASIS FOR DESIGN

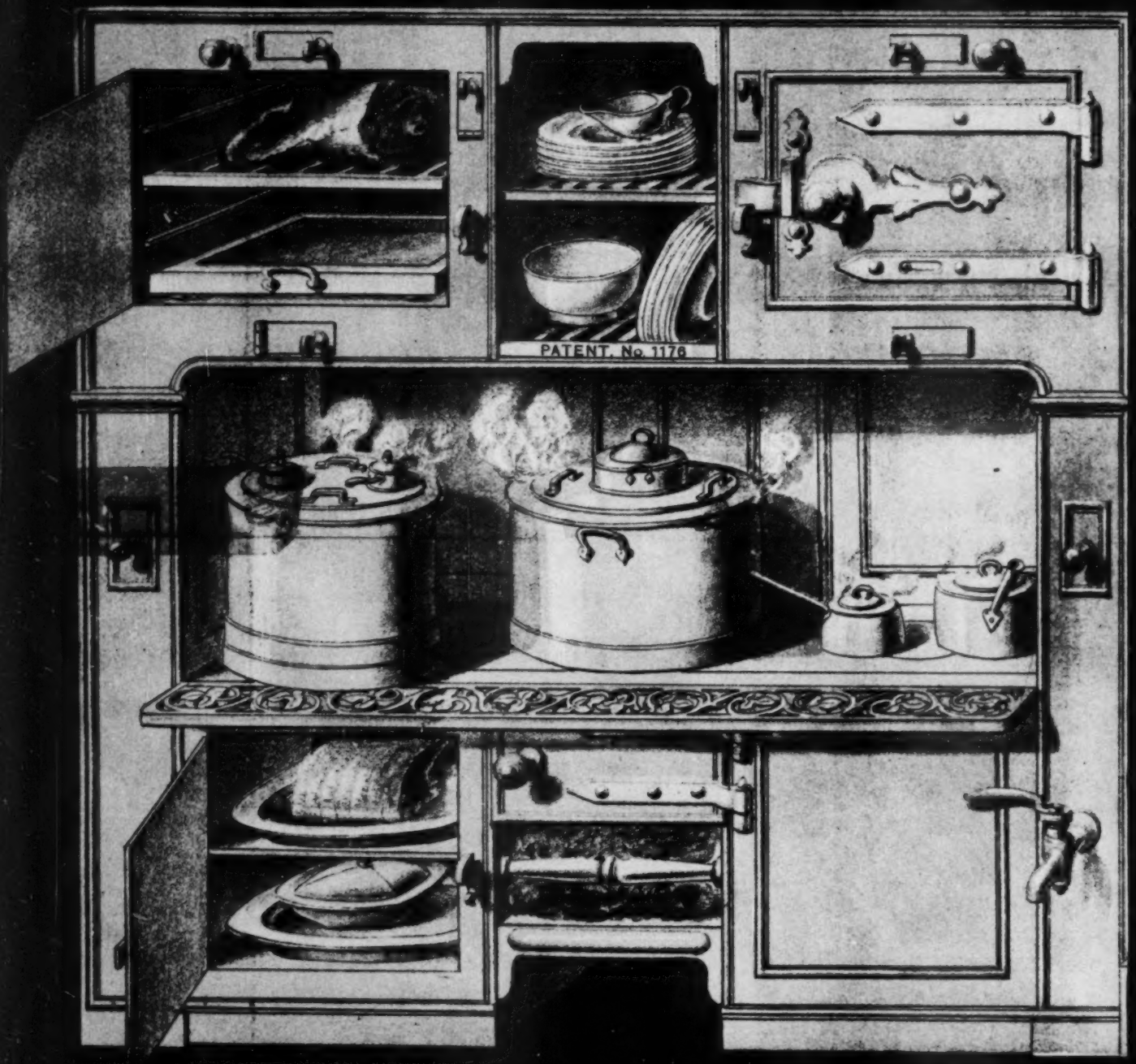
How are homes inhabited? If manufacturers had detailed answers to that question covering most types of society in this country alone they would be more capable of running profitable businesses. Instead of gleaning facts about the consumer through the normal trade channels of communication (retail salesman, retail buyer, commercial traveller, sales manager) which are partially clogged by prejudice and preconceptions, they could get objective information direct from source.

This sounds neat and logical but how could it be achieved? Not by mailing questionnaires, not by enquiries on the doorstep; in fact not by any of the commonly practised market research techniques for these rely too much on the opinion of the interviewee and too little on disinterestedly observed evidence. We need in this country what the Swedes are already getting: a steadily developing stock of information on what people have in their homes, how they use it and how it could be improved to suit them better. And there are several ways in which we could get it.

The Molony Committee now enquiring into methods of protecting consumers' interests might decide that the many existing and mooted safeguards might be better based if more were known about consumers themselves. If this led to Government-supported research whereby trained observers covered a wide sample of homes, the results could be of positive value to designers. Alternatively national living habits might be investigated by a philanthropic foundation; the Nuffield research into patients' requirements in hospitals is an instance in a specialised field.

But the most direct method would be for a group of firms in different industries serving the domestic market to act together. Assuming the whole house to be their quarry, as many as 20 different firms could subscribe to the work on the understanding that each would have the exclusive right to apply the general results – where appropriate – to its specialised business. The domestic user does not think of his home as the province of the furniture manufacturer one minute and the carpet manufacturer the next. His home is a complex whole with parts supplied by 20 or more different industries. To know it as such, and to know all the others in the sample, would be immediately revealing to each collaborating firm which could then see its potential contributions against a general background.

A first report would give the picture today, but living patterns change. The value of tracking them might well suggest to the supporting firms that a permanent research subsidiary be set up. Their designers would be the last to question such a move, for which of them can be a jump ahead of his public if he does not know where his public stands today? M.F.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# POINTERS

### Mistakes in hospital design

Next month DESIGN will publish the first of a new series of articles on design in hospitals and it is already apparent that this is one field in which research into basic requirements has been sadly lacking. Little has been done in this country since the Nuffield Trust published its report* six years ago (DESIGN 86/32-36). The result is that architects and designers who are involved in the new hospital building programme are groping in the dark with little more to guide them than the often conflicting ideas of the doctors and nurses. In some cases the layout of the new hospitals bears little relationship to the type of equipment which has to be installed; requirements are set out piecemeal so that accommodation is unnecessarily duplicated; equipment is sometimes difficult to operate and maintain. All this points to the need for an extensive research programme if these costly mistakes are to be avoided in future. The broad outline for such a programme will be suggested in the final article of the series.

### Research in progress

In the meantime it is good to know that several isolated research projects are going ahead which will add to our knowledge of user requirements in a variety of fields. As far as hospitals are concerned the Nuffield Foundation is providing scope for new work – this time in the form of a research project at the Royal College of Art where Professor Misha Black and L. Bruce Archer are now starting on an enquiry into the function and design of non-surgical hospital equipment (see page 83).

The establishment of F I R A, the new Furniture Industry Research Association, was announced last month (DESIGN 150/91). This means in effect, that the Furniture Development Council's research and information committee, which has been producing valuable work during the past few years, now becomes a fully fledged Research Association, working under the auspices of the D S I R.

At about the same time it was learned that the British Standards Institution has set up three committees to study anthropometric requirements in domestic and industrial furniture. One of these will be concerned with kitchen work top heights – the present 36 inch high standard has long been considered unsatisfactory from an ergonomic point of view. Other aspects of domestic furniture with particular reference to the needs of old people and factory seating will form the subjects for the other two committees.

* *Studies in the Functions and Design of Hospitals*, Nuffield Provincial Hospitals Trust and University of Bristol, Oxford University Press, 1955.

### Artificial obsolescence obsolete

It is not so very long ago that a visiting American designer argued hotly (but pleasantly) over lunch the validity of artificial styling obsolescence. That we were not convinced will have been apparent to regular readers of DESIGN on a number of occasions. Now, according to a fascinating enquiry among 12 of America's top designers, carried out by the U S journal *Dun's Review and Modern Industry*, there is a marked change of emphasis in American thinking on this subject.

The American market is becoming more discriminating, apparently, and will look increasingly for efficient function and high quality rather than phoney status symbols. Raymond Loewy is quoted as saying: "There is increasing resentment of gadgets, systems and devices that do not compensate in utility or service for the irritations they arouse." The designers pointed out that emphasis on function will be an important element in America's current efforts to extend her export trade.

While we cannot resist a certain smug satisfaction that the Americans at last seem to have come round to our point of view, it must be remembered that it is *only* a point of view. Americans are notoriously apt to don rose-tinted spectacles when looking at European designs and a cursory glance at a few British products reveals plenty of scope for a more conscientious study of consumer needs – as the leading article on page 39 points out.

### Management and design

"It is not accidental that sample firms whose architecture was criticised happen to be low profit firms, and conversely the firms whose architecture has been praised happen to be high profit firms." This quotation is from an unpublished report on the investment policies of British industrial firms by T. Barna of the National Institute of Economic and Social Research.

Dr Barna, reporting on the different attitudes and characters of a number of firms interviewed, found that successful management accepts the consequences of social and economic change and is more ready to take action to remedy adverse situations. "It is unwillingness to accept change," he says, "which is manifested in the architecture of head offices of some firms, with emphasis on massiveness and with inner courtyards."

This endorsement of the economic wisdom of progressive design policies deserves the widest publicity. Will we now be able to draw our own conclusions about the quality of management from the host of new buildings that can be seen in London?

### ◀ Art editor's page

Great fun in the kitchen these days, what with split level cookers, double ovens, eye level grills and the rest (see page 48). But before digesting any ad copy headed "Revolutionary Concepts in Cooking" the reader is recommended to take a large pinch of salt and inspect this illustration of a patent cooking range produced in 1860 by Newton, Chambers & Co Ltd.

SURVEYS OF INDUSTRY No. 4

# MAJOR KITCHEN EQUIPMENT

*This article was prepared in consultation with J. Beresford-Evans*

**Cookers, refrigerators and washing machines are the domestic goods discussed in this fourth survey. Strictly, these products represent only a part of a vast industry manufacturing 'domestic consumer durables', but for some time their development has progressed on parallel lines; more recently, after a period of comparative inactivity, many manufacturers have introduced new models to the market.**

The larger pieces of domestic equipment are often called 'consumer durables', but many of these, through their complexity, importance and cost, could reasonably be considered as the householder's capital equipment. The cost of services and equipment of this kind forms a substantial part of the cost of building; and although land values and the like eventually limit expansion of living space it becomes all the more important to develop appliances to enhance the convenience of that space which is available.

To meet market demands, the gas and electric appliance industry last year produced over one million cookers, more than 900,000 refrigerators and about 800,000 washing machines. Comparing these figures with previous years, production of cookers has fluctuated a little above the million mark but has remained relatively constant, whereas the output of refrigerators soared from around 500,000 in 1958 to more than 800,000 in 1959; washing machines did likewise – from about 800,000 to nearly 1·3 million.

Since 1959 there has been a slowing down in the growth of production which is said to be due to hire purchase restrictions. In fact, in some quarters it is believed that production figures quoted above (ie delivery to retailers) are not fully representative of home market sales – the hp restrictions axed sales before production could be cut back.

On the whole, however, the home market for some consumer durables shows healthy signs. For example, estimated market saturation values for refrigerators rose from 10·5 per cent in 1958 to 21 per cent by mid-1960 (possibly being around 23 per cent today). Washing machines have fared even better: from 28·7 per cent in 1958 to 37 per cent in 1960 (and 40-45 per cent today). These are the accepted signs of growing prosperity in the U K.

Thus while there remains plenty of scope for expansion at home, it may not be all that long before the industry is faced with the major problem of selling to replacement rather than 'first buy' markets. This has been apparent in the U S for some years where saturation values are said to be of the order of 90 per cent for most kitchen appliances. In that country, although planned styling obsolescence may play a part in maintaining sales, there are indications that this form of artificiality in design is tending to be replaced by new developments of various kinds designed to serve the real needs of the consumer (DESIGN 145/52-57).

#### Markets abroad

Continental markets also offer considerable scope for expansion by the British industry, though the significant increases in imports of washing machines and refrigerators to the U K, from both the European and American Continents, suggest that there is little cause for complacency. One way for British firms to get ahead of their foreign competitors would be to study in more detail what the consumer really needs, to minimise domestic chores. Are the present day devices as well adapted as they could be to the household's needs? The analysis of the washing machine in this issue (see pages 61 to 67) suggests that mechanical ingenuity is not enough in itself. How does this relate to other developments in the major appliance industry?

A look round a shopping centre in a mining town such as Doncaster will show that kitchen cabinets and small washing machines are a main interest. In the context of the miner's cottage, with a 'telly' in the parlour, but a too small kitchen of nineteenth century design, these are the obvious first moves to modernise the domestic scene. A small suburban house of the 'twenties will by now have got beyond needing a kitchen cabinet, but the family will be needing a refrigerator and a more modern cooker. This is the bread and butter level of the domestic appliance industry, for which the alleged 21-inch × 21-inch × 36-inch cooker, the 4½ cu ft fridge, the powered washing machine and 17-inch television are the normal output.

Most of these things have a price level which it is often felt ought to be about £40 (but the refrigerator is, at present, nearer £80). The margin between what the family thinks it can afford and the actual retail price has then to be made up, and it is the effort of justifying this margin which so often shows itself in the product as trim, gadgets and 'sales points'.

#### Styling versus design

There has always been a limited market for very superior products, and there is prestige attached to the making of them, but once such things proliferate they begin to mark out a new datum. In the last year or so there have been several firm signs of a generally accepted datum at £70 plus for certain equipment.

But if £70 plus becomes a normal thinking level for people when they consider buying a new or a better appliance, it will mean that many products, which we have come to accept in something like the form they had when first introduced, will need to be thoroughly overhauled. A manufacturer can advance by stages, improving his product and adding new features, up to a point. After that, additional hot plates, greater speed, increased capacity, more colour or chrome, will be insufficient to carry the increment without some real advance in concept.

Nearly all machines are accepted, initially, because of the saving in physical work; and secondly or concurrently because of increased precision. Only when the machine has come to some maturity do we begin to ask if it need be so difficult to operate, or so noisy, or so inconvenient in matters not in the direct line of its function. We will put up with a lot for the sake of the prime

function. But when a refrigerator or a deep freezer can be heard all over the house, needs frequent defrosting, and makes the larder the hottest place in the house, its prime function has to be very important to that household.

Obviously we are not to expect a revolution in the domestic field, for people change their habits slowly and it may take a new generation to convince the older one that a change of equipment is due. But there are a few pace-setters. Appliances which raise the sights on cost, performance, and convenience – especially when this means freedom from work and attention – must eventually have an effect on the humblest item in a mail order catalogue.

### Programming in the home

The ideal, and the commonest factor in these pace setters, is programming. The mental strain of attending a discontinuous series of operations is considerable and may be as tiring as the steady drudge of all-manual operation. Programming can be as simple as a kettle which switches itself off as soon as it boils, or as complex as the operations of a wash from soaking to spin drying. The most significant parts of programmes are those which take care of the waiting and watching. If the user must make an action only when an operation is complete, and then take another action when that single operation has been completed, it could divert so much attention from other work that both may suffer.

Divided interests of this kind, without a working rhythm to signal the time intervals, would not be acceptable in industrial work. But if a machine is to be programmed then it is no good producing a device which is designed for one purpose, the average man. Flexibility for various households, different living conditions, etc, is essential. Obviously, no industry can produce a multitude of devices to suit all needs, but a study of what is required may lead to one basic design, easily adaptable to the thousand and one different conditions.

### Conclusion

When the cost will allow, as it should in the capital appliances considered here, there is room for development in design to enhance the basic product well beyond the common 'acceptable' level. This margin, if it follows a pattern of luxuriation on popular models may, one hopes, produce better looking and more convenient designs: or it may waste its energy in premature toys like rotating spits or super-streamlined, unreadable facia panels.

If we are very optimistic, however, we could suppose that the trend towards programming shows a movement which looks towards the needs of the home floor rather than the convenience of the factory floor or the demands of the retailer's showroom.

### Freezers

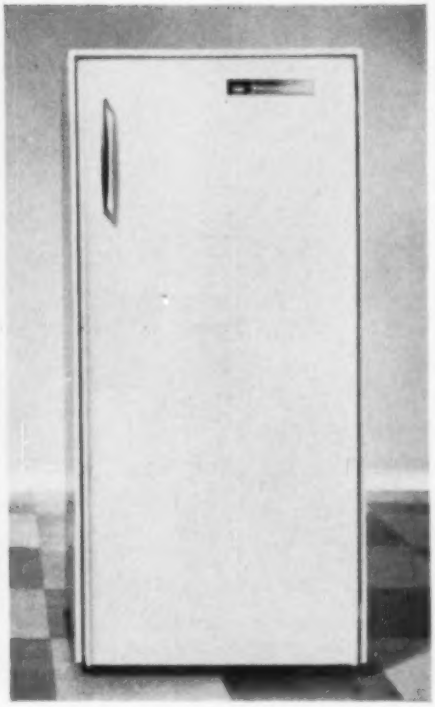
The big deep freezer, as distinct from the domestic variety, now uses an almost silent motor and dissipates its heat from the surface, without any need for the fan system which causes the bulk of the noise. Insulation is very efficient, so that there is little heat output, and the freezer can be sited almost anywhere without announcing itself. Using wrapped food, there is little condensation, and an annual scrape of dry ice, without defrosting, is all that would usually be necessary. The amenity of being able to quick-freeze almost any kind of produce at glut time, and to draw upon it through the year, has been well appreciated by farming people and is being used more widely. The cost of a big deep freeze can be as low as £8 per cu ft, which makes anything else seem expensive; always providing there is room to house it, for a 21 cu ft freezer will need about 15 sq ft of floor space.

But is the domestic market so well looked after? It is often the case that the domestic market, a poor relation of the commercial, contract and industrial outlets, has less attention paid to its products. The manufacturer has a reason: "We proportion development costs according to the size of the market". Can the research behind a contract for a refrigerated ship worth, for sake of argument, £500,000, be compared with that behind the production of 10,000 domestic refrigerators at £50 each?

If space is limited, the domestic freezer appliance is neither more nor less than a ready-use locker, to be stocked from time to time from the retailer's store of packed food. Immediately the deep freeze becomes a specialised part of the domestic refrigerator. As the domestic refrigerator had a special small compartment for ice making, so it now tends to have a larger, special part for holding deep frozen packs.

There is a general tendency to marry two cabinets, one for medium and one for low temperature, but the one idiom which had been developed during the rise of the simple refrigerator is used in both. This clearly shows a lack of maturity, for these costly appliances are still struggling, with trim and 'borax', to attract sales by playing to cupidity. Almost without exception the exteriors are straightforward statements of their purpose, but the pay-off lies in Juke's treasure chest when the doors are opened. When people are ready to seek a functional answer, in a dignified manner, without romantic support, or when industry offers this as value for money, we may have interiors that are exciting without being tawdry. Meanwhile there are a few signs that this workmanlike approach is possible.

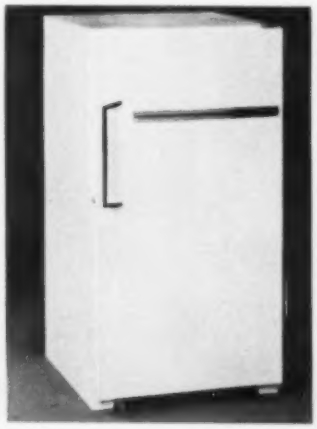
LEFT and BELOW *Sheerlook DB30*, one model from a new range. 5.1 cu ft capacity. Height 45 inches; depth 21 inches; width 20¼ inches. DESIGNER *Roy Ireland*. MAKER *Frigidaire Division of General Motors Ltd.* £72 9s.



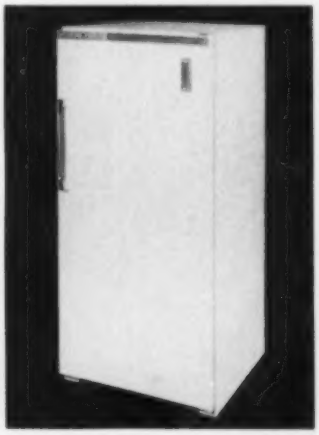
*E37 Iced Diamond*. 3.7 cu ft capacity. Models are available to be free standing, built under an existing work surface or placed chest high (as shown here). Height 34¼ inches; depth 21 inches; width 21 inches. MAKER *AEI-Hotpoint Ltd. From* £63 3s.

Creda *300*, 3 cu ft capacity. Height 33 inches; depth 20¼ inches; width 19 ⅝ inches. MAKER *Simplex Electric Co Ltd.* £54 12s.

*Slimline 77*, one model from a new range. 7.7 cu ft capacity. Height 46 inches; depth 25¾ inches; width 24 inches. MAKER *The English Electric Co Ltd.* £109.

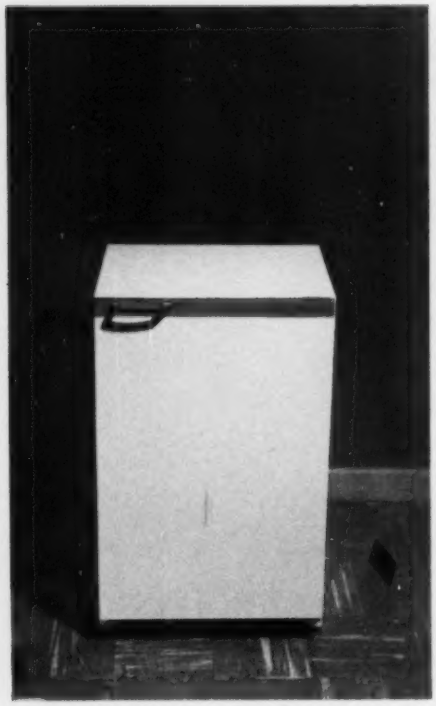


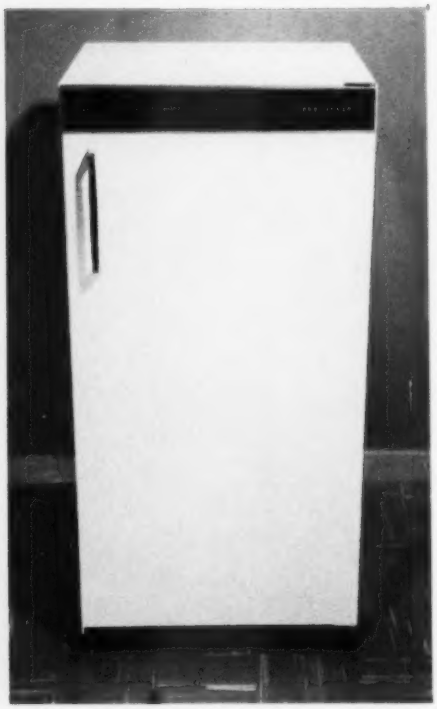
*K94MD*, one model from a range. 9.4 cu ft capacity. Height 54 inches; depth 25¾ inches; width 24 inches. MAKER *Kelvinator Ltd.* £135.



## Major kitchen equipment

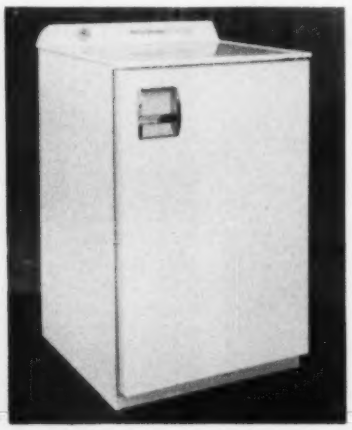
Home freezer and refrigerator designed as two free standing units. The refrigerator has 4.7 cu ft capacity, and the freezer 4.2 cu ft capacity. Each unit: height 34¼ inches; depth 24 inches; width 24 inches. DESIGNERS *Design staff of maker in consultation with Kenneth Grange.* MAKER *Kenwood Manufacturing (Woking) Ltd.* £70 7s *(refrigerator)*; £76 13s *(freezer).* ▶

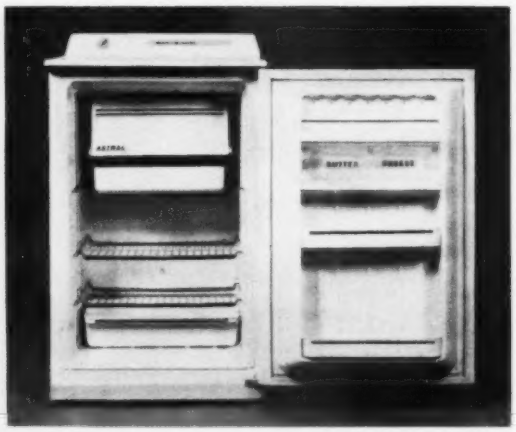


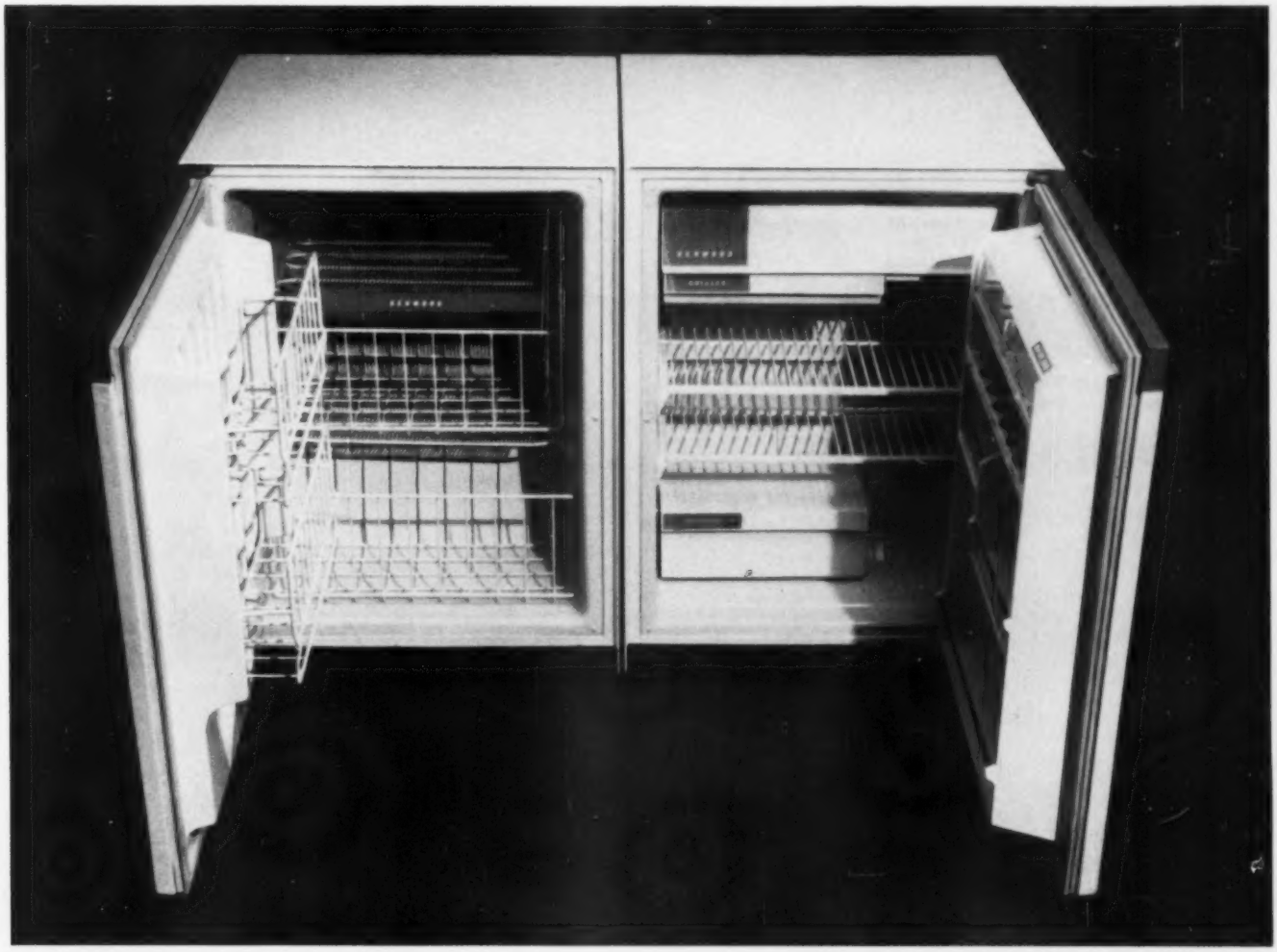


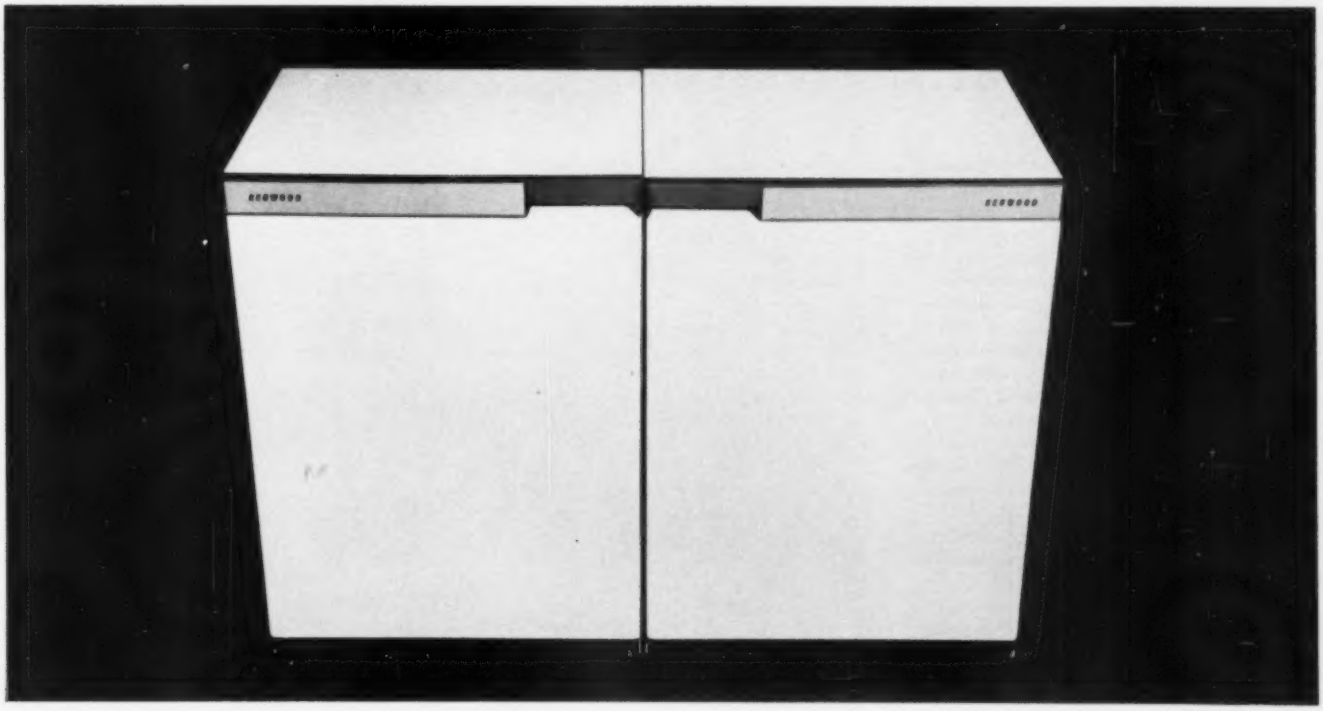
Three models from a new range developed from the *Packaway D301* which won for its designer the Duke of Edinburgh's *Prize for Elegant Design* in 1959. Models available with 3.1, 5.2 and 8.1 cu ft capacity. CONSULTANT DESIGNERS *Wilkes and Ashmore.* MAKER *The Prestcold Division of The Pressed Steel Co Ltd.* £52 10s *(model* Three, LEFT); £69 6s *(model* Five, CENTRE); £93 9s *(model* Eight, RIGHT).

Astral *A350 Table Top* refrigerator. 3.5 cu ft capacity. Height 35⅞ inches; depth 23¼ inches; width 22½ inches. MAKER *Morphy-Richards (Cray) Ltd.* £44 2s.



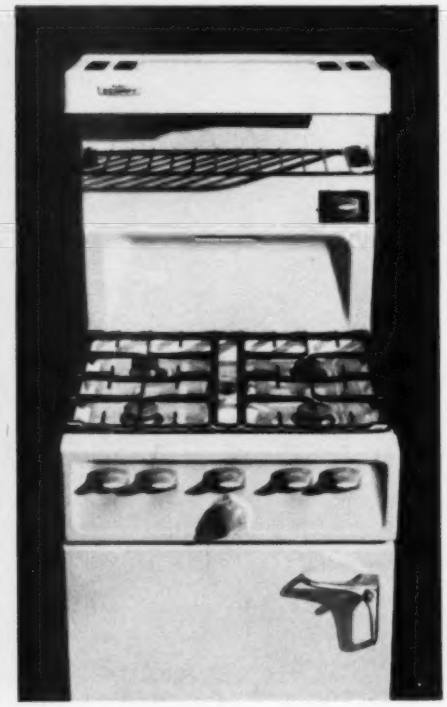




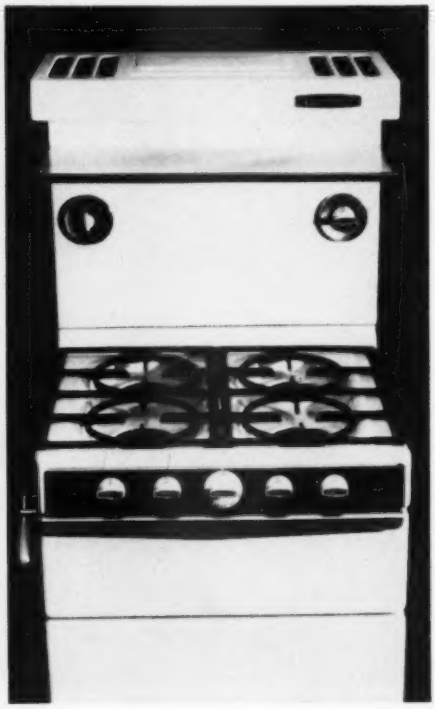


*New World 44* gas cooker. Hob has four burners. Height to hob 34 inches; depth 24 inches; width 22 inches. MAKER *Radiation New World Ltd. £44 10s.*

*Equerry* gas cooker. Hob has four burners. Height to hob 35¾ inches; depth 23 inches; width 21¼ inches. MAKER *Sidney Flavel & Co Ltd. £37 10s.*



*Cavalier* gas cooker. Hob has four burners. Height to hob 36 inches; depth 24 inches; width 23 inches. MAKER *Allied Ironfounders Ltd. £56 10s.*



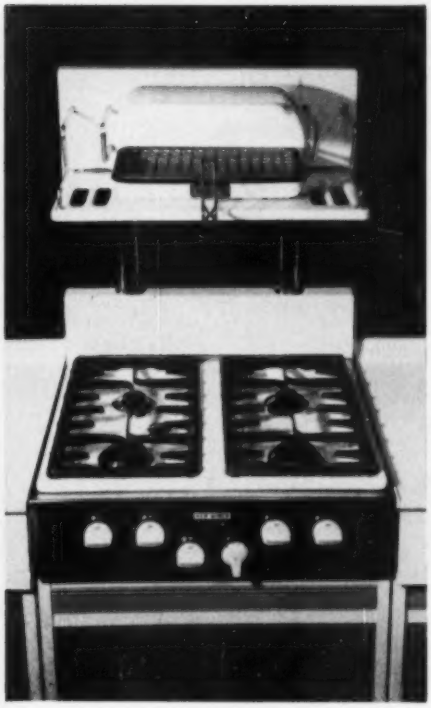
**Cookers**

There is a battle for floor space in any kitchen, but there is also a very real struggle for a multiplicity of functions from the cooker that has strained the limits of what can be held in 21 inches of width. English Electric's *2034* cooker, with a grill chamber that is independently heated to make it a second oven, is about as far as one can go in this direction. A way out of the impasse, now that people are more prepared to reshape the space taken over from the builder, is the split cooker with a wall mounted oven and a bench mounted hob. Simplex, Radiation, Moffat, Tappan and Tricity have versions of this arrangement, but all fail to deal with the entire needs of preparing a hot meal. There is more in this than the cooking of it. Warming plates, dishing up, keeping one dish warm or slowly finishing its cooking while another is under, are treated as a serious matter in the layout and design of catering equipment: and there is every reason why a housewife, who is not only a cook, should have more than token help from an appliance ensemble. Apart from English Electric's double oven cooker mentioned above none has more than vestigial hot cupboards, and three makes put the grill behind the oven door – a detestable habit that should be resisted by every good European.

The six makes mentioned above are showing a way back from the nominal 'cooker' to a more serious and more nearly professional way of preparing meals, but they still exhibit too much of the appliance maker's besetting sin. So far as we may generalise, a manufacturer tends to see his product as generated by technical and production design, and delivered through sales media to a public, in quanta that are essentially works-based – tons of cast iron rather than numbers of products for people to use. Market research, domestic science advisers and industrial designers can help to direct the outlook of factory towards the user, but they can only modify an industrial concept. Can design ever be faced about, so that it looks from home to the factory?

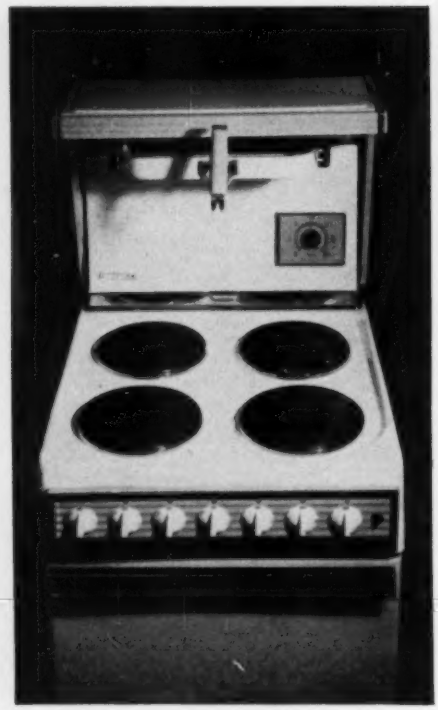
Kitchen techniques do not lend themselves easily to programming and though a time clock on the oven control goes some way, there is only one British design which uses a hot plate sensing thermostat (where the temperature of the pot is fed back to control the heat supplied to it).

*New World 72A* built in gas oven, a companion to the hotplate and grill, RIGHT. Height 29½ inches; depth 19½ inches; width 23 inches. MAKER *Radiation New World Ltd. £40.*



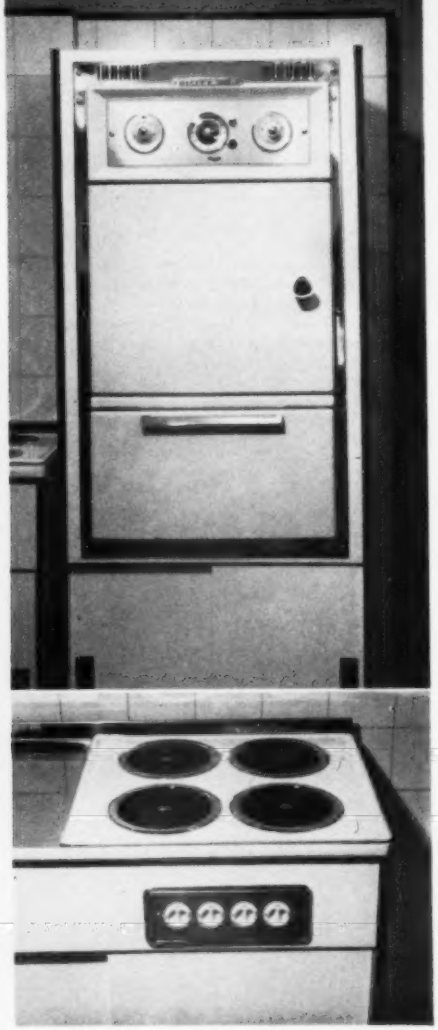
*New World 72AG* gas cooker hotplate and grill is one of the few gas models available for building-in. Four boiling burners. Grill is at eye level. Hotplate dimensions: height 5¼ inches; depth 21 inches; width 22 inches. MAKER *Radiation New World Ltd. £30.*

## Major kitchen equipment



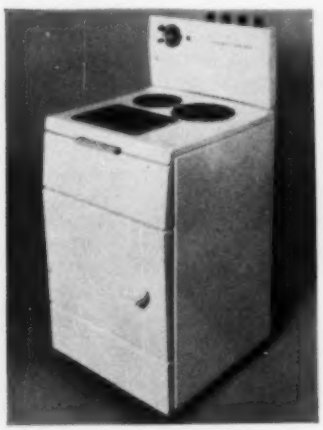
*Highline 494T* electric cooker. Grill is at eye level. Height to hob 33¼ inches; depth 23¼ inches; width 21 inches. DESIGNERS *S. W. Buckingham and L. H. Potter.* MAKER *Electrical Division of Radiation Ltd. £56.*

*Marquis* electric cooker. Four radiant plates are hinged, and hob is lit by fluorescent fitting. Height to hob 36 inches; depth 25 inches; width 21 inches. MAKER *Tricity Cookers Ltd. From £64 1s.*



*Built-In* electric cooker, oven, TOP, and hot plates, ABOVE. Hob has four radiant plates. Oven: height 42⅛ inches; depth 21 inches; width 23 inches. Hotplate unit: depth 21 inches; width 21 inches. MAKER *Tricity Cookers Ltd. £53 11s (oven and grill unit); £35 14s (hob and control unit).*

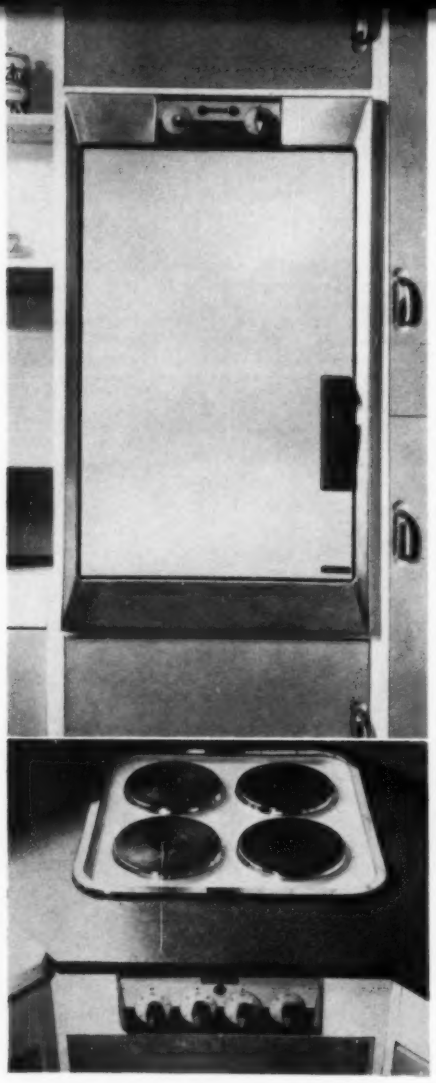
*Family Special* electric cooker. Equipped with two radiant plates and a grill/boiling plate. Height to hob 36 inches; depth 24 inches; width 21 inches. DESIGNER *R. D. Carter.* MAKER *Reto Electric Co Ltd. £48 17s 6d.*



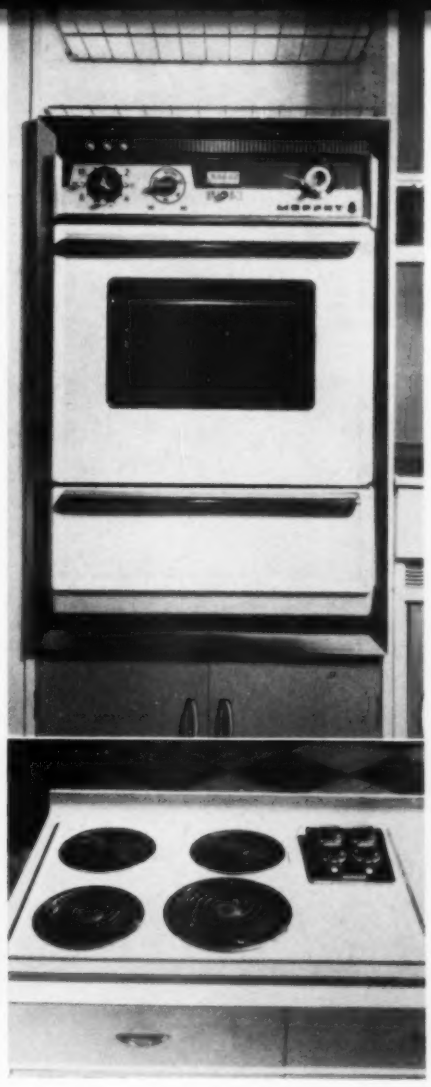
*2034* double oven electric cooker. Hob has four radiant plates, one with heat sensing device touching bottom of pan. Height to hob 36 inches; depth 25 inches; width 21 inches. DESIGNER *Design Research Unit.* MAKER *The English Electric Co Ltd. £69.*

*Treasure Four* electric cooker. Height to hob 36 inches; depth 22¼ inches; width 21 inches. MAKER *The General Electric Co Ltd. £59 10s.*

*KBA 24* electric cooker. Hob has four radiant plates. Height to hob 36 inches; depth 26 inches; width 24 inches. Made in Canada to English specifications. MAKER *Canadian Westinghouse Ltd for Harrods Ltd. £117.*



*Creda* unit electric oven, TOP, and hot plates, ABOVE. Hob available with two or four radiant plates; and includes detachable griddle. Oven: height 38⅞ inches; depth 22 inches; width 22¼ inches. Hotplate unit: depth 20⅛ inches; width 20¼ inches. MAKER *Simplex Electric Co Ltd. £61 19s (oven unit); £31 10s (four plate hob).*



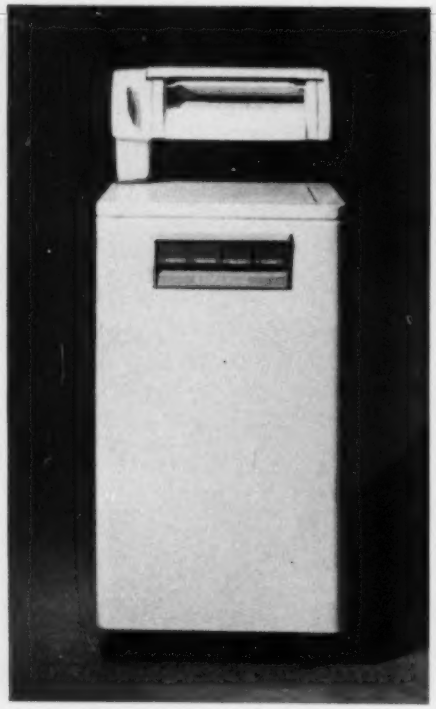
*21E80W* electric wall oven, TOP, and *SEE440* hot plate, ABOVE. Oven: height 38⅛ inches; depth 24¼ inches; width 26¼ inches. Hotplate unit: height 3⅛ inches; width 29⅛ inches; depth 19¼ inches. Designed in Canada. MAKER *Moffats Ltd. From £96 12s (oven); £38 (hot plate).*

*Fiesta* electric cooker unit for cabinet mounting. Four plate hob pulls out. Height 31¼ inches; depth (hob closed) 26⅛ inches; width 32 inches. Designed in Canada. MAKER *Moffats Ltd. From £200.*

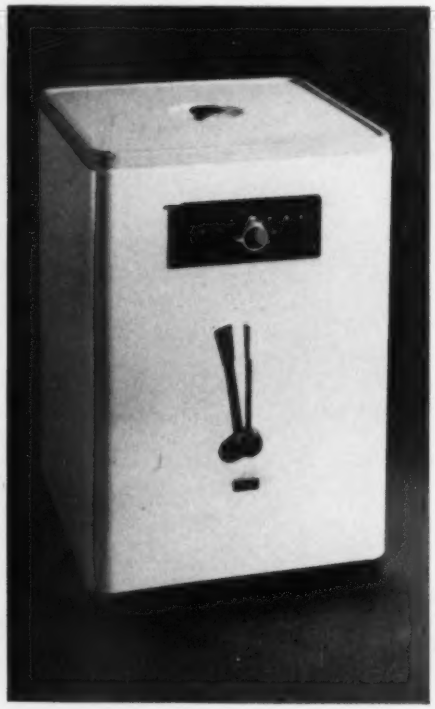
*Tappan 442* double oven electric cooker unit for cabinet mounting. Four radiant plates mounted on pull-out drawer. Height 33¼ inches; depth (hob closed) 25½ inches; width 40 inches. Designed in U S A. MAKER *John Thompson Instrument Co Ltd. £259 12s.*

*Creda Constellation* double oven electric cooker. Left hand oven contains roasting spit. Four radiant plates are mounted in line above ovens. Height to hob 33 inches; depth 24¼ inches; width 40⅛ inches. MAKER *Simplex Electric Co Ltd. £110 5s.*

Washer and electric wringer (model *Countess Plus 6*). Height 33¼ inches (wringer folded); depth 19 inches; width 17¼ inches. MAKER *AEI Hotpoint Ltd. £67 4s.*



Semi automatic, single tub washer and spin drier (model *Double Plus DE 212*). Height 32 inches; depth 25 inches; width 21 inches. MAKER *The General Electric Co Ltd. £59 10s.*



Washer and hand wringer (model *Gas-Electra*). Water is heated by gas, and washing action powered by electricity. Height 31½ inches; depth 19½ inches; width 18½ inches. MAKER *Dean Sales Promotion Ltd, gas division of Burco Dean Ltd. £48.*

▲ Twin tub washing machine (model *Supermatic*). Water circulates through filter system to trap fluff. Height 34½ inches (overall); depth 18 inches; width 30 inches. MAKER *AEI Hotpoint Ltd. £93 9s.*

*Hootermatic* twin tub washing machine. A small change from previous, well tried model is the mounting of all controls on the front, together with a redesigned timer/thermostat. Height 31½ inches; depth 16½ inches; width 29½ inches. MAKER *Hoover Ltd. £89 5s.* ▶

## Laundry machines

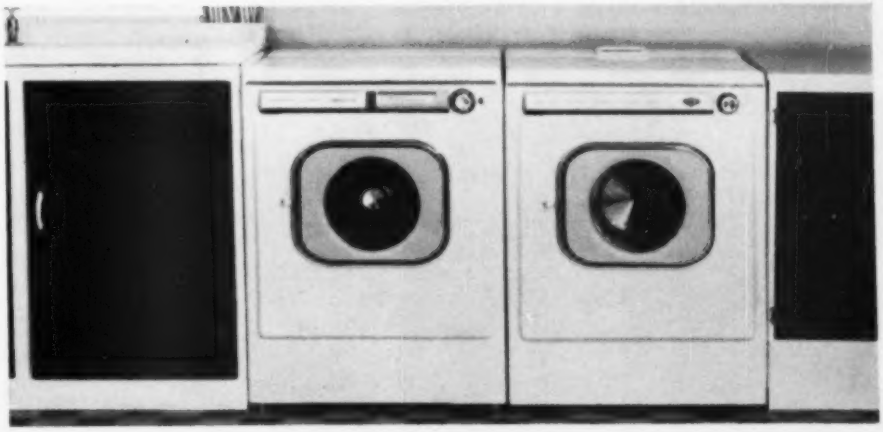
There are two points of view on the fully developed appliance. One is that the machine should be fully programmed, and the other, that it should have the maximum of flexibility, with every aspect of its performance separately controlled by a push button. The operator can then direct it into any desired pattern, which may be one – however eccentric – that is appropriate to that particular household. Patterns to suit each individual may not be possible with a fully programmed machine, which will have been instructed to carry out a range of standard operations in the optimum manner. While programmes can be interrupted, changed in mid flow, set back or advanced, they are primarily designed to operate without any attention once the initial decision has been made. Against a certain loss of flexibility, however, must be set the optimum performance that a programmed machine will give within its range of choice. If that range is nominal, then a flexible machine may be more useful: but where the choice is wide enough to cover most needs it will do its selected task with greater precision and thoroughness than the most domestic, scientific and assiduous of housewives. At the time of writing there are only two fully automatic washing machines of British make that are programmed through the whole of the washing cycle, English Electric's *Liberator* and Hoover's *Keymatic*. The finesse with which they carry out their tasks is built-in, but of equal importance is their complete detachment. Once the selection of washing cycle has been made and the washing powder added, they can be ignored. This freedom from periodic attention and temporal distraction is worth a great deal.

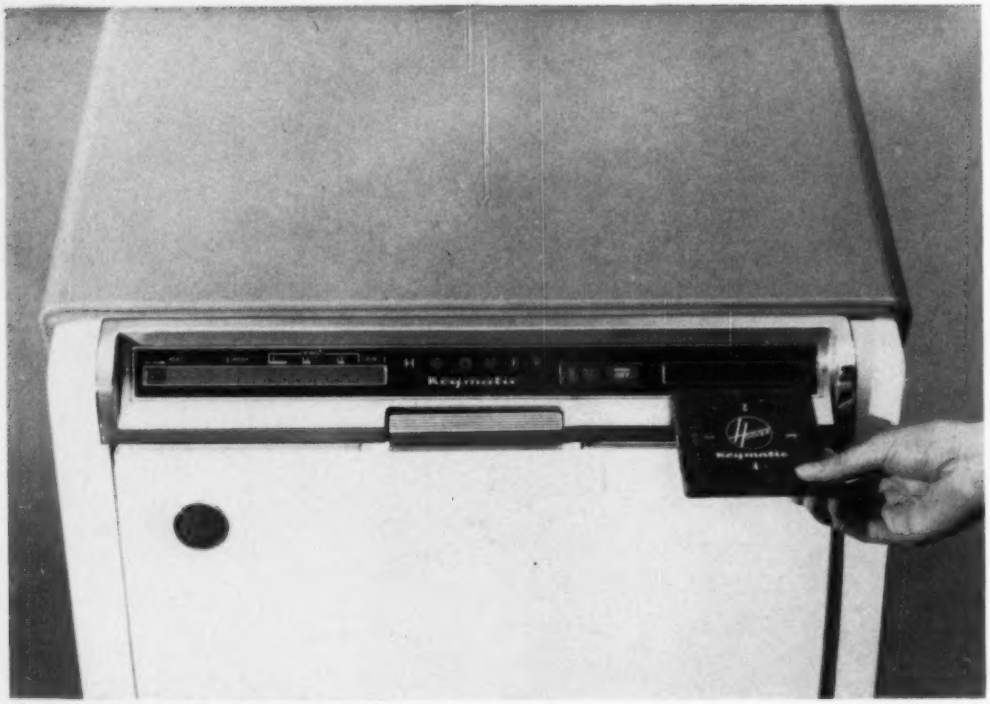
Both machines show a confidence in their washing techniques borne of careful development work and long testing. Both have taken a big stride, from being merely sure of their facts and of the technical design, towards coming to terms with the needs of the housewife. For her 'the wash' is just another chore to be fitted in as best it may. She wants the machine to do the lot for her, and will not, if she can avoid it, give any of that coaxing, caring and tending which is usually required of large equipment. Industry as a whole has been very slow to accept the reality of this view. Probably it has been loath to concede the legitimacy of a user's attitude which omits any continued interest in the product. The firm has brought it into being and is proud of it. Few are sufficiently urbane, or have enough humility, to find out how badly their products can be used, or even to acknowledge that there are inconveniences.

The *Liberator* and *Keymatic* machines, more clearly than any other appliances, show an awareness of the user and an interest in her which is not confined to her purchasing power. The *Liberator* has a distinct advantage in pairing with a tumble dryer (a dryer needs a large drum and, so far, combined wash-spin-tumble drums have not been efficient). The *Keymatic*, coming on the market a year later, is a little more flexible (it should, for instance, be possible to have special programmes cut on a second 'key') and the loading may be easier. Potentially the better machine, its weakness lies in a selling concept that has permeated the design, making it assertive in shape and redolent with demonstration or point-of-sale features. The biscuit-shaped key, as an instance, is far less direct and convenient than a displayed programme, and therefore has a gimmick taint.

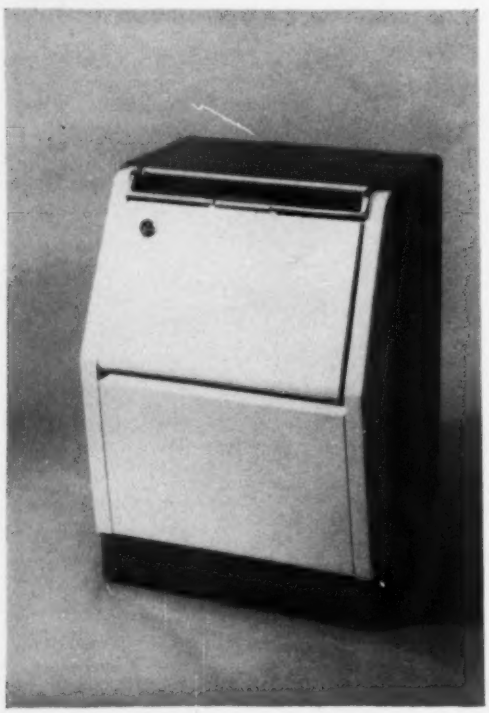
**Note** The *Parnall EW60H* washer and spin drier, is not shown here because it is the subject of an article on pages 61 – 67

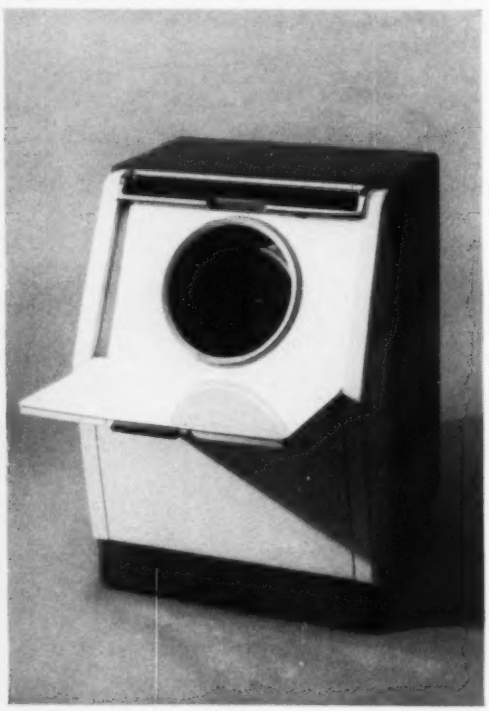
Fully automatic washing machine (model *Liberator*, BELOW), and tumble drier (model *Liberator Tumble-Dry*, BOTTOM *right*). A choice of six washing programmes may be set on the washing machine. Washing machine: height 33½ inches; depth 22 inches; width 25 inches. Drier: height 33½ inches; depth 23 inches; width 25 inches. MAKER *The English Electric Co Ltd.* *£110 5s (washing machine); £60 18s (drier).*






Fully automatic single tub washing machine with tumbler and pulsator action (model *Keymatic*). Any of eight programmes can be selected by inserting a special plastics programming plate into the machine. Height 32½ inches; depth 26 inches; width 24½ inches. CONSULTANT DESIGNER *Henry Dreyfuss*. MAKER *Hoover Ltd.* £120 15*s*.





# MORRIS MEN

PATIENCE GRAY

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**1** *Willow Boughs* wallpaper designed for block printing by William Morris in 1887; now machine printed by Arthur Sanderson & Sons Ltd. *16s* per roll.
**2** Table lamp in cast and turned brass and copper, with copper reflecting shade. This was designed by W. A. S. Benson about 1895.

Morris is the man who has been shelved for half a century like a great pewter pot on the kitchen mantelpiece. A reformer on all fronts, a man of furious temperament, he would be as appalled by the insatiable acquisitiveness of our society as he was sick of the shams and exploitations of the Victorian age. But his message "learn to do without" finds a direct reflection in the work of the best British architects today, who have succeeded in eliminating most of the furniture in modern houses and who are not ashamed to reveal the construction of their buildings, so that bare brick, concrete, timberwork are honestly exposed.

It was thanks to a small group of architects that the Morris Society was formed in 1953. The enthusiasm of the society's members, coupled with the researches of the late Peter Floud, have inspired the current touring exhibition *Morris & Co*, which celebrates the centenary of this remarkable firm. It has been organised by the Arts Council with the co-operation of the circulation department of the Victoria and Albert Museum under Barbara Morris, and the exhibition will be shown in Manchester, Bradford,

3

**3** Table glass designed in 1861 by Philip Webb and made by James Powell & Sons at the Whitefriars Glassworks.
**4** The St George cabinet (in mahogany and pinewood on painted and gilt oak stand) was designed by Philip Webb in 1862; the front was painted by William Morris.

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**5** Ladder back chair in oak with a rush seat designed by Ford Madox Brown about 1860 and later sold by Morris & Co.

Barnsley, Cheltenham and Southampton during the summer.

The firm began in 1861 in premises in Red Lion Square as a protest against the false values and visual horrors of the time. A group of youthful idealists, Morris and his pre-Raphaelite friends, Rossetti, Burne-Jones, the architect Philip Webb, and Ford Madox Brown were the chief protagonists. They banded together as "fine art workmen" inspired by a common ideal of mediaeval simplicity ("let us be prepared to give up many things") with an ardent and romantic feeling for surface decoration. Morris believed that the artist should become craftsman and serve the community. He himself turned his extraordinary talents to a vast range of applied arts, stained glass, painting, furniture and panelling, designing wallpapers, chintzes, carpets, weaving tapestries, and embroidering wall-hangings. Philip Webb designed most of the furniture, glass and artefacts made by the firm.

Its success produced a revolution in late Victorian interiors, though not in the social direction that Morris preached. He believed profoundly that art should be of, for and by the people. But the work produced by his firm included the decoration of palaces and houses of the rich. Even the hand-printed wallpapers involved so many blocks that only the well-to-do could afford to buy them. Morris the social reformer was caught in the capitalist net. He could not destroy the soulless mechanical aspect of factory work, but he did pioneer a new association between the artist and industrial production. He and Webb were the first industrial designers in the modern sense. Morris was also the greatest decorative artist England has known, and this exhibition at last brings his greatness home.

# COLOUR RESEARCH IN QUESTION

Faber Birren, American colour consultant, has recently extended his practice to this country (DESIGN 137/25); a booklet, *Colour Research: a Definition*, which explains Mr Birren's views on the nature and functioning of colour research, has caused disquiet among British designers. Mr Birren's approach is based on analyses of sales records, market study, consumer polls and retail sales tests. In the booklet this approach is contrasted with what is said to be the attitude of the designer, who "tends to choose colour for its aesthetic value; simply to be different; or because of personal preference". This attitude, the booklet goes on to say, "can be very dangerous economically especially where mass markets are concerned". Not unnaturally, designers' hackles were raised. Is Mr Birren setting himself up in opposition to the designer? Does colour research follow established principles of what is good colour for particular purposes? Is it based on scientific study? To find out, DESIGN invited Mr Birren to meet a colour expert and an industrial designer to answer these and other questions and to discuss the nature and function of colour research. This article presents a shortened version of the recorded interview.

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**and his challengers**

**Bill Gloag:** *architect; in charge of colour research at the Building Research Station of the DSIR; responsible for the technical work on BS 2660,* Colours for Building and Decorative Paints; *co-author, with Michael Keyte, of* Colour: Co-ordination for the Manufacturer and User (DESIGN 123/34-40) *and* Co-ordinating a Colour Range (DESIGN 129/33-37).

**F. C. Ashford:** *industrial designer since the middle 'thirties; assistant to Raymond Loewy's London office until World War II; formed Scott-Ashford Associates with Douglas Scott in 1947; Reader in Industrial Design (Engineering), Royal College of Art, 1956-59; now in private practice; publications include articles for* DESIGN *and* Designing for Industry.

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### The designer – economically dangerous?

**Ashford:** Mr Birren, your booklet suggests there is some conflict between the colour consultant and the industrial designer. You say the artist, and in many cases the designer, tends to choose colour for its aesthetic value, simply to be different, or because of personal preference. I think that's quite unsupportable: a fine artist, quite understandably, might be unaware of certain economic and commercially technical factors, but the industrial designer is not likely to be any less objective in his approach than the colour consultant.

**Birren:** I cannot answer that, because I don't know how thoroughly the industrial designer in England researches colour.

**Ashford:** Your first two paragraphs seem to me to admit that the principal reaction to colour is irrational, that is, part aesthetic and part psychological; and then later on you write all that off as "glamour". And you say quite clearly that your method only deals with economic aspects. Now that makes us wonder whether your whole approach isn't completely mechanical and statistical?

**Birren:** What is probably unusual in England and not so unusual in America is this sharp distinction that you have pointed out. I will accept that the aesthetic aspect is highly important; but as colour consultants we are not primarily concerned with the aesthetics of colour. We are concerned with the acceptance of colour. So we, as a research organisation, do not impose any personal feelings on what we do. We are not on the creative side. If colour assumes great economic importance, management wants to know whether the colouring – independent of the design – is one that the public will accept; so they will ask us to research colour preferences and we merely prepare and present standards. We might conduct market studies and say, "These are the directions which the English public or the American public seems to prefer for kitchens". Now this is in fact used to guide the efforts of the creative staff. This is not at all unusual in America, because we do a lot of private consultation for industrial designers. They want our help.

We would say we have no ability, no authority on the aesthetic side of, eg, textile decoration; but we would say "All right, there's a tendency to lilac" (which there has been in England). We would research what shade of lilac would be best – light or dark – and what tones would be best, depending upon the product. And then we say, "All right, this is what the consumer would probably accept, according to our research work. Now you can do anything creative with that if you want. Make colour combinations with it, or take certain liberties with it" – and understand, the request always comes to us from the management. You see, the management wants some help and assurance that what he produces will be acceptable to the public.

**Ashford:** But the industrial designer in this country regards himself as having some skill in these matters, and being described as a dangerous person economically makes him feel very unhappy and more than a little suspicious that you may be trying to shake the confidence of the manufacturer in that part of his service.

**Birren:** The only defence that I would make there is contained in this phrase "mass markets". In the field of high fashion, we do not operate at all. There is in America, as well as in England, a certain class of people who are educated, intelligent, sophisticated, and these people are the ones that are the style leaders. Now, colour research comes in after them: as I say, we do not create and initiate colours. We merely measure the directions in which they're going. We are always concerned with large volume merchandise sold to average people.

**Ashford:** I was referring strictly to the industrial design practitioner who is concerned with the design of quantity-produced articles. He obviously wouldn't pretend to be able to undertake a lot of the theoretical work that you do, but he would, I think, feel capable of being able to recommend suitable colours for a product which he is designing, and I think he is naturally aware of the general trends in colour in the particular field in which he is working, and in associated fields. Also, he is aware of the general technical considerations of the materials or processes with which he is working.

**Birren:** What you say is true; but the attitude you have just taken would not be acceptable in the United States.

### Colour research: scientific or empirical?

**Gloag:** Mr Birren, you put a lot of emphasis on the scientific approach – you said that the ground on which you mainly rest, is the fact that you can measure the factors you're concerned with. I'm wanting to ask you whether in point of fact you can measure the psychological aspect – because your approach seems to me to be an empirical one.

**Birren:** Yes, we think we can measure it – all this may be new to you people in England. I have found it new in discussing it with industrial designers and business people – on the psychological side, things have been discovered by us, which ordinarily do not occur to a creative person. Take a portable typewriter, as a case in point. Now, as a research organisation we are interested in the things that motivate the purchase of a portable typewriter. So with the co-operation of the client in supplying facts which the agency has assembled, we find out who buys a portable typewriter. Or we find out, let's say, that 40 per cent of portable typewriters are bought by business people. The colour desires would be quite different from those for a refrigerator. For instance, we may be trying to get women to put typewriters in their homes, so that you will get the home owners' concept of colour, which will be psychologically quite different.

**Gloag:** Yes, but you're really surveying personal preferences with that, aren't you? You rule out personal preferences in the booklets, but you're obviously very dependent on them in your technique.

**Birren:** We don't rule out personal preferences – not on the part of the public. Because we're primarily concerned with the personal preferences of the public.

**Ashford:** Mr Gloag, when you're referring to psychology and colour and to colours being restful and stimulating and so on, has scientific work been done to establish these facts? Or is this again a question of personal preference?

**Gloag:** Work has been done to rationalise these aspects of colours' being restful or stimulating. Unfortunately, though, the scientists engaged on it have for the most part, as far as my experience goes, worked in the laboratory on isolated colours. In the practical field, one sees a colour among other colours. Yet the observers in the tests may be asked to comment on, say, an isolated patch of red in a black box, in certain specific ways. So that although there has been quite a lot of effort made on the scientific side, I would say it hasn't so far been strictly relevant to the practical case.

**Birren:** There is always this difference of the emotional, personal, individual feeling about colour which we study in mass. And as for the physiological side – Mr Gloag speaks of the red patches and the black boxes; the stimulation to the human eye of a bright colour will increase blood pressure, pulse rate, respiration, maybe

muscular tension – and measurements can certainly be taken.

**Gloag:** I'm afraid I question the validity of those statements. Never in any case that I've seen in these experiments has there been a definition of what particular red it was, and neither, as far as I know, has there been a distinction made – a very important one – between the lightness and darkness of different colours, or the strength of different colours. For instance, if one generalises about red and says that red causes increased blood pressure and so on – red can appear in a vast number of different versions. And you could have a weak red as opposed to a very strong green. And it seems to me that much the more important factor of green as opposed to red is this one of strength. That seems to me to be a much more direct measure of stimulation than the hue itself. So that when it comes to referring to scientific data, in the process of colour consultancy, I feel one's got to be rather discriminating and even to guide the scientists, rather than the other way round. Because the research, if it's done at all, is not yet being done in quite the right direction.

**Birren:** Well, again this is a confusion in my opinion between the scientific physiological approach and the consumer approach. I don't see what relationship there is between blood pressure and pulse rate and consumer preference for a refrigerator anyhow.

**Gloag:** But you have claimed that your particular function as a colour consultant concerns you with things that are measurable and I'm questioning the validity of that point blank.

**Birren:** I don't seem to get my point clear. What I described to you was a measurable technique. I don't quite understand when you say it's not.

**Gloag:** I think that it is empirical. Is this not purely a matter of common sense rather than skill and the scientific knowledge of colour itself? For instance, you have proposed a particular colour for a teacup which doesn't yet exist in teacups, but you then go to the consumer, who probably has no views on the subject. Where are you getting your data from, except by pure trial and error? You're just putting something forward and trying it out and getting a reaction?

**Birren:** Oh, I'd dispute that, it's totally untrue. We get our colour from many products which are, in our opinion, advance guards of the colour trends which would eventually affect the teacup, as you might say. After we get our information we have evidence in other products – we go back, always concerned with the general frame of mind of the public.

**Gloag:** It does seem to me to be taking colour as a fashion factor, because it has caught on in some other products. It can't be reconciled to a functional approach.

**Birren:** You are right. It cannot be. Two different things.

### Co-ordination versus anarchy

**Gloag:** Can I take up another point? – this one of tying up your recommendations with existing standards in this country, in particular the British Standard 2660, which is actually a new kind of paint range, not only in this country but in any, to my knowledge. That's part of an operation towards co-ordination of colours of different materials, beginning with paint, but extending to any number of other coloured products which will be seen or used together. The object is partly to improve standards of design by making the available palette itself better co-ordinated, as opposed to the individual colour range. How can you reconcile your own function?

**Birren:** I can make two comments. There are 101 colours in the 2660 range. Our first client in England, as you know, is a paint manufacturer, whereas – you correct me if I am mistaken – 2660 range is, I think, largely for the architectural profession.

**Gloag:** It's a national standard, primarily for building purposes, but it does of course extend to a variety of products, some of which would be in the hands of the architect, others not.

**Birren:** Well, if there are 101 colours and the manufacturer wishes to produce a shorter line for other purposes, if the colour was at all within the 2660 range that's the one we would propose; but frankly, if our research indicated the desire for a consumer colour which was not in the 2660 range, we would propose it nonetheless, as a consumer product.

**Gloag:** But I would have thought that you were very sympathetic to a range which had a research background.

**Birren:** We are. But the only permanent thing is change itself. Ten years ago in America, by analysing paint sales for instance, about 40 per cent of the demand was for sharp and fairly deep colours. Now America is in a pastel era and we have a 60 per cent demand for pastels, which used to be 20 per cent. So you see, when you attempt to set up a line of standards, it frankly would be far short of what creative men will want to work with.

**Gloag:** I don't accept that point. The standard was aimed at being comprehensive enough to allow for variations within it. And I would suggest that instead of a range being designed in accordance with the latest fashion or the latest trend, it is more helpful if the range is big enough to be comprehensive.

**Birren:** It's very true, except that the consumer demand goes against standards. You are not always going to use the same red or the same pink or the same ivory or the same blue, so pretty soon what happens is that there aren't any standards and the industrial designer says, "Well, we want this shade of pink and not that shade of pink, and we want that price advantage". The manufacturer finds there's such a demand for that shade of pink, which is not standard, he can give them the price advantage – so you see it's a difficult thing to take 101 colours and say that for ever after people should use those colours.

**Gloag:** But if a housewife, for example, wants to blend her colours together for the different products in her kitchen, she is very hard put to it now. It is one of the things the housewife aims at as well as the trained designer. And I'm reminded of the *Punch* cartoon of a lady standing in her kitchen surrounded by objects from Venetian blinds to pepperpots, all in their different bright colours, all competing with each other. She's wearing dark glasses.

**Birren:** Well, you see, an American manufacturer would have an answer for that. He would say, "I don't care what she buys. My function is to sell it to her". In fact the manufacturer of the dark glasses would have a new market.

**Ashford:** I think that, if a satisfactory standard is established, the demand reflected by industrial designers will be within that standard. It comes down to whether you are going to be anarchistic or whether you are going to be co-ordinative. I was wondering whether one can't be more civilised and obtain competitive advantage by other means, because after all colour is only one factor.

**Birren:** You can always gain competitive advantage in good design. But supposing our client comes along and we say, "Well, the whole trend in America is to pastels, let's take a colour that we know is acceptable and make it

lighter". He does that, and outsells his competitors. You'd have to pass a law to hold him against doing such a thing. See what I mean?

**The moral issue: change for its own sake**

**Ashford:** In the book, you rather suggest that the industrial designer chooses colours just to be different. And it seemed a moment ago you were defending the choice of colour just to be different. For a machine tool or an instrument, for example, you are restricted to a fairly small selection of colours for all kinds of reasons – aesthetic reasons, questions of good contrast with work, reasons of light reflection and so on. In these two fields in particular, I think the position is already rather acute. Many of the 'statistically acceptable' colours have become so closely identified with individual makers as to limit their use. Surely there's not an infinite variety available – you can't suddenly switch to another, unsuitable range of colours just to secure more room for your manoeuvres. If you do, doesn't that undermine your whole statistically scientific approach?

**Birren:** Well, of course, you people have produced beautiful merchandise successfully in your markets for years and years: we wouldn't presume to take any other line than the one that we follow. In other words, our attitude is support, and I might say that the attitude that we take is very appealing to business interests in England and has been in America, because the manufacturer with whom we deal is quite happy that someone comes along and says, "There isn't any personal feeling in the matter of colour: we are completely impartial on the subject". Now this this is what appeals to your English business man, and we are very successful in your country on this basis. It may be criticised: but we don't like the criticism when it comes from the creative people, because we are trying to make clear, as we do in America, that we're helping management support the creative effort.
Now for the point that you make – let's say there is a line of textiles. We would say to the manufacturer, "If you produce nothing but research merchandise, at our suggestion, that isn't enough. You won't be a leader, you won't gain the prestige, you won't have a good line unless you are just selling syndicate stores or something." I mean, you must do creative work, so it is done.

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**Birren:** You see, in the United States, as well as in England, because we do no design work in our organisation, we do not run into trouble. And I might say that if this booklet we are quoting from were written for industrial designers, it wouldn't read like this at all.

**Gloag:** Yes, but it is rather difficult to follow, Mr Birren, because at one point the booklet says, "Colour research is not a substitute for good design or styling" – in other words, presumably, it is not a substitute for the industrial designer in the same field – but at another point it says that "Colour research replaces the approach of the artist", with all these economically dangerous implications that you've attached to the artist. Well, now, these two are irreconcilable.

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**Birren:** We are saying that in the design of the product, the designer is king. He can use his personal feeling, his ability as a designer, his experience, and all is perfectly all right, but when it comes to the subject of colour, we don't think the individual approach is as good as the objective interest, therefore, on the subject of colour, we have a different attitude.

**Gloag:** You said that colour is a part of design and one can't design a product without colour. It's impossible, and therefore you detach one aspect of design and make it your own, and apply to it a dispassionate point of view. You have encroached on the ground of the designer.

**Birren:** Well, as far as the colour is concerned, the colour is modified to suit the product, and the designer is capable of doing that, and so are we. In other words, we will mock up models the way a designer does. These are matters of skill and training.
But as for standards – in the United States, 90 per cent of all the typewriters are grey. A large corporation buys a typewriter and insists upon a grey typewriter because it doesn't want to break with convention. Now, if a manufacturer of office typewriters making a standard grey colour – which they all did – stuck to that, it's perfectly all right. We have no objections. But as I said before, if you get a client who wants pastels and can outsell competitors by making pink typewriters, who's going to stop him?

**Gloag:** Presumably you would bring to bear a knowledge of good vision and visual comfort; and that would lead you to fix a bracket for colour for typewriters, which is going to aid vision and reduce tiredness. You cannot at the same time admit an approach which says colour must be different from everyone else's, no matter what the circumstances.

**Birren:** Of course the point you make is exactly what happens. The lighter colour with more light, highly decorated offices, was functionally better than the old dark grey. When that old dark grey was originally designed, it was probably to keep it clean or something like that. And you'd be pretty hard pressed to hold me on one line all the time, you see. If 90 per cent of office typewriters are sold in grey, only 40 per cent of portable typewriters are sold in grey. When we come to the subject of portable typewriters, we're going to make pink and we're going to make turquoise regardless of any functional thing, because they'll sell better. And it's not a matter of visual efficiency: Uncle buys one for his niece graduating from college and he is going to be influenced by its appearance. And the girl probably can't type very well, anyway.

**Gloag:** So you are prepared to sacrifice colour that is good in a fundamental sense, colour that is good for vision, colour that is good in the physiological sense, colour that is possibly good in the psychological sense as far as one can measure that – for fashion, for inter-trade competition.

**Birren:** No, Mr Gloag, not at all. We still make the grey machine, but we also make the pink and the turquoise. We are forced to do it. We can't evade it, because the manufacturer's primary purpose is not to improve human vision, it's to sell typewriters. We will make the functional machine, and we will prefer to do that: but we have to make the other thing for the consumer market.

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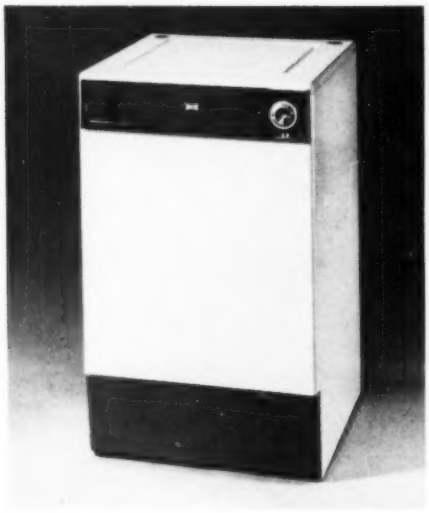

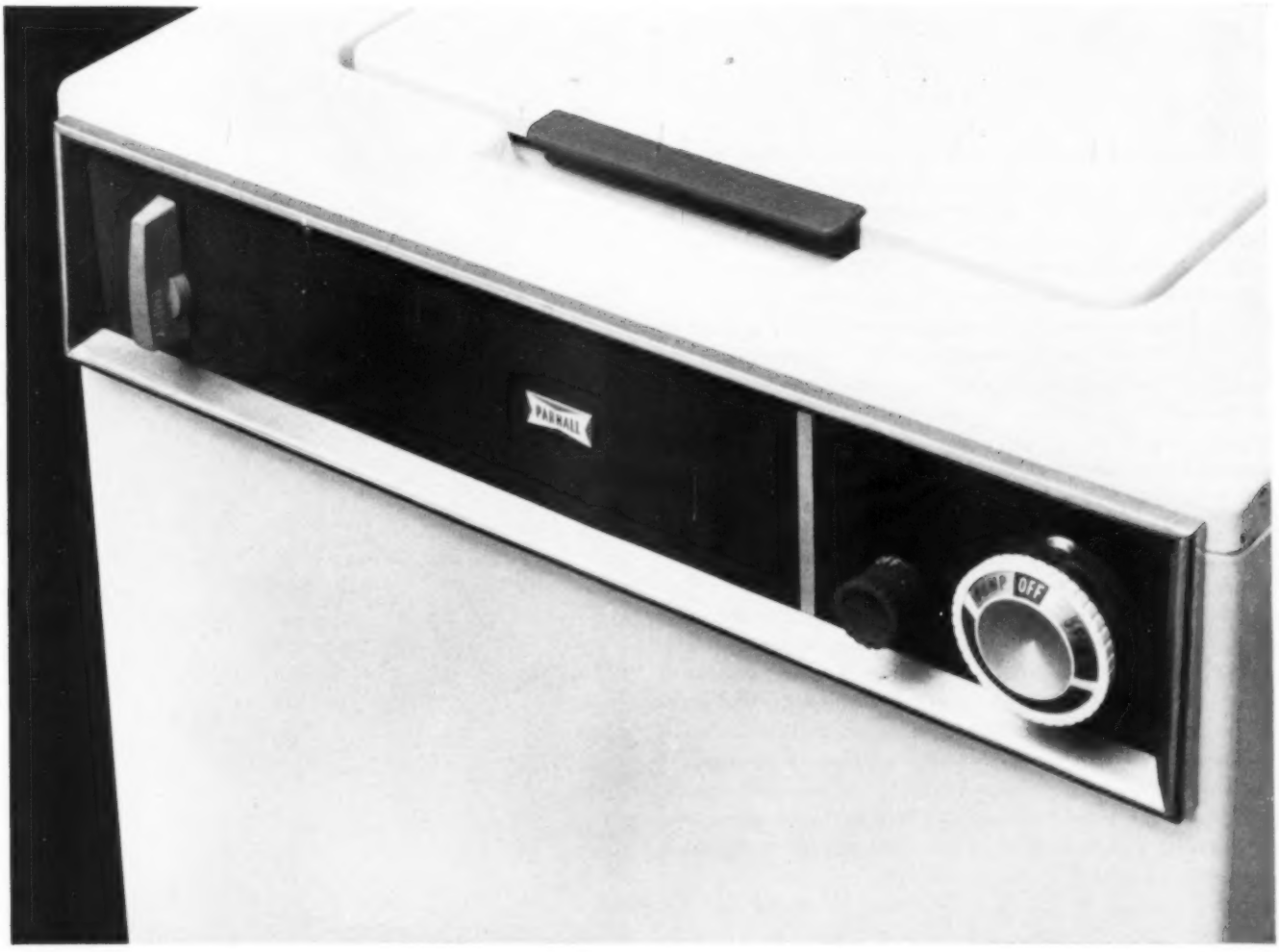


# DESIGN ANALYSIS 22

*Washing machine*

*Parnall Spinwasher, model EW60H.* DESIGNER *A. R. B. Dow.* MAKER *Electrical Division of Radiation Ltd.* PRICE *£88 4s.*

lighter". He does that, and outsells his competitors. You'd have to pass a law to hold him against doing such a thing. See what I mean?

**The moral issue: change for its own sake**

**Ashford:** In the book, you rather suggest that the industrial designer chooses colours just to be different. And it seemed a moment ago you were defending the choice of colour just to be different. For a machine tool or an instrument, for example, you are restricted to a fairly small selection of colours for all kinds of reasons – aesthetic reasons, questions of good contrast with work, reasons of light reflection and so on. In these two fields in particular, I think the position is already rather acute. Many of the 'statistically acceptable' colours have become so closely identified with individual makers as to limit their use. Surely there's not an infinite variety available – you can't suddenly switch to another, unsuitable range of colours just to secure more room for your manoeuvres. If you do, doesn't that undermine your whole statistically scientific approach?

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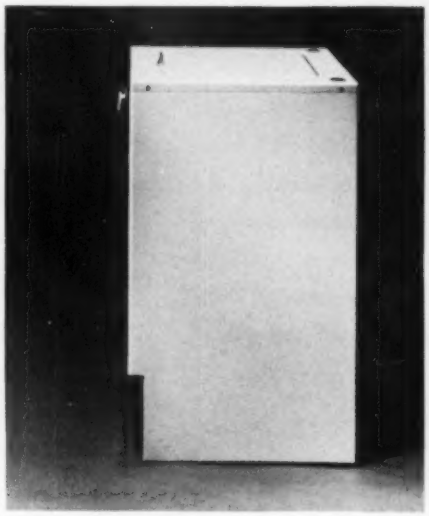
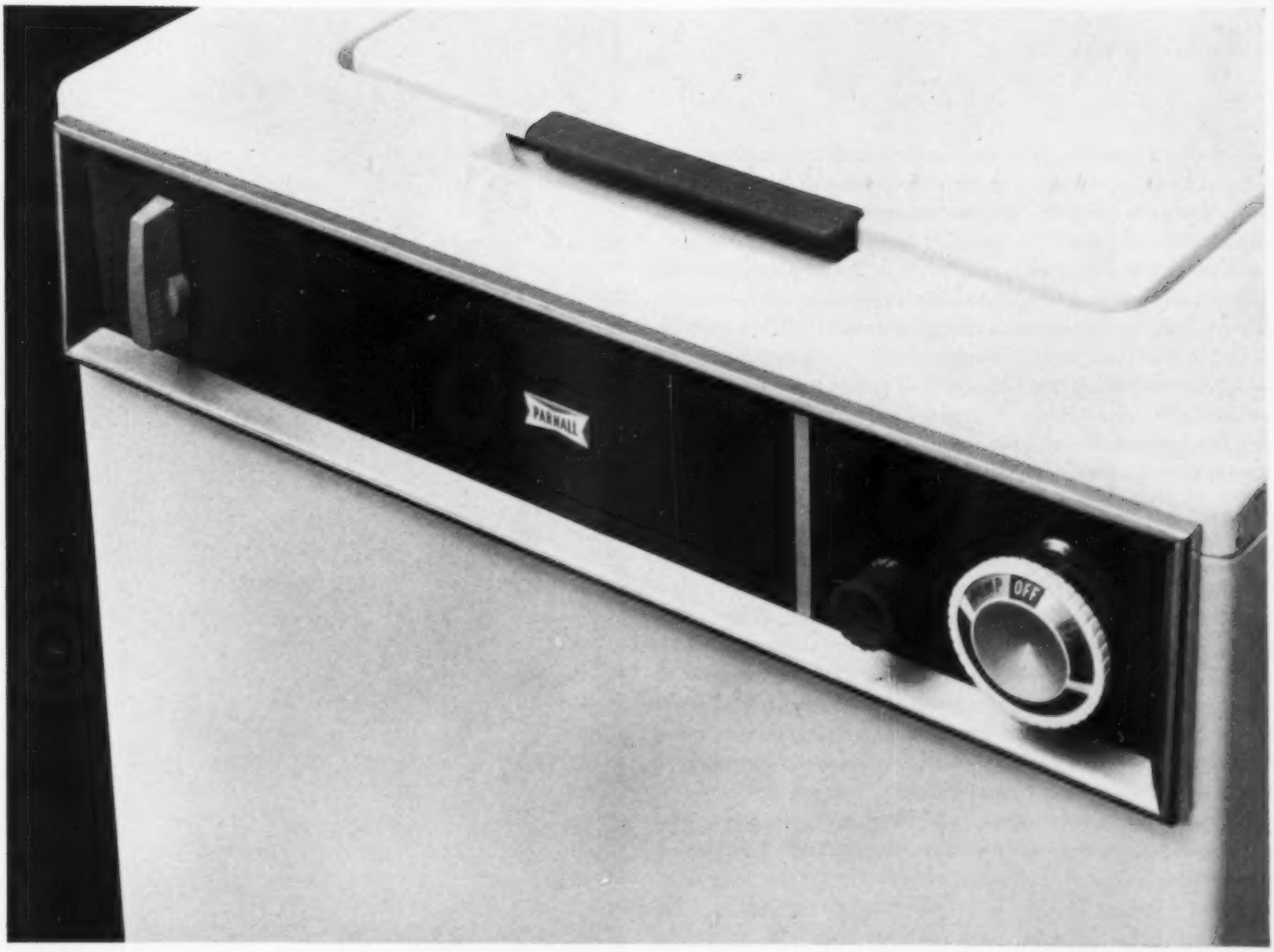





# DESIGN ANALYSIS 22

*Washing machine*

*Parnall Spinwasher, model EW60H.* DESIGNER *A. R. B. Dow.* MAKER *Electrical Division of Radiation Ltd.* PRICE *£88 4s.*

**Design analysis 22: washing machine**

*When a product is chosen for examination in this series, its selection turns on some outstanding feature – a new concept perhaps, or an original solution to an old problem – which the product seems to offer. In this case the design of the washing machine suggests an unusual combination of programming and flexibility, even for a 'semi-automatic' device, in addition to claiming water conservation in a single-tub machine. Models with heaters were used for several months in three households; besides valuable reports from the three wives, specialist comments were made by Brian Shackel, human factors consultant, and H. Humphreys, senior lecturer in mechanical engineering, Northampton College of Advanced Technology, London. This report is based on the users' comments, the specialists' analyses and tests, and examination of models during various stages of production.*

MALCOLM J. BROOKES

The *Parnall Spinwasher* is a semi-automatic machine with agitator action, in which washing, rinsing and spin-drying can be carried out in the same tub. One other contemporary make is in the same classification, the Thor *Automagic*. However this device can hardly be considered as a rival as it is marketed by the same group.

Before describing how the machine works, it would be useful to name briefly the main constructional features. **1** is taken from an assembly drawing. Housed inside the cabinet covers are:

(a) A cylindrical outer container, 76 (containing a 3kw heating element, 364).

(b) The basket unit, 270, which is the container for laundry. It consists of a double shell drum, with the inner cylinder perforated. The basket assembly is bolted to a casting, 235, which contains reduction gears and a reciprocating mechanism. This mechanism drives the agitator, 264, vertically mounted in the centre of the basket.

(c) on the base of the machine is a clutch and brake unit, 152, through which a drive shaft runs. This unit is most ingenious in its construction and operation. Rigidly fixed to the clutch and brake unit top casting is a tube, 191, on which the basket is supported. Down the centre of the tube passes the driving shaft which at the top has a nylon gear locating with other gears in the agitator gear box, 235, and a drive pulley at the base.

(d) beneath the outer container and fixed to the base is a split-phase ac motor fitted with a capacitor, 374, and next to it a water pump, 308.

**Controls**

Three controls on the front of the machine govern the modes of operation throughout the washing cycle of wash, spin and rinse. The controls are:

(a) Combined mode selector, timing device and off switch, known as the timer. It is divided into four main segments – OFF, PUMP, WASH and SPIN. 'Off' and 'pump' are infinite time switches, whereas the operator can select any time up to 10 minutes on 'wash' or 5 minutes on 'spin', after which time the machine switches itself off. The user must then select a further mode of operation by manually operating the appropriate controls.

(b) Heater thermostat and pilot lamp. The thermostat control is marked OFF, 100°F, 140°F, 190°F and 212°F. The timer and heater controls are mechanically interlocked so that no functional mode can be set when the heater is on, and vice versa.

(c) Water valve. This knob is called the pump control and directs flow from the pump which either drains any water in the outer tub container to waste (marked EMPTY) or sends it back to the basket (marked PUMP).

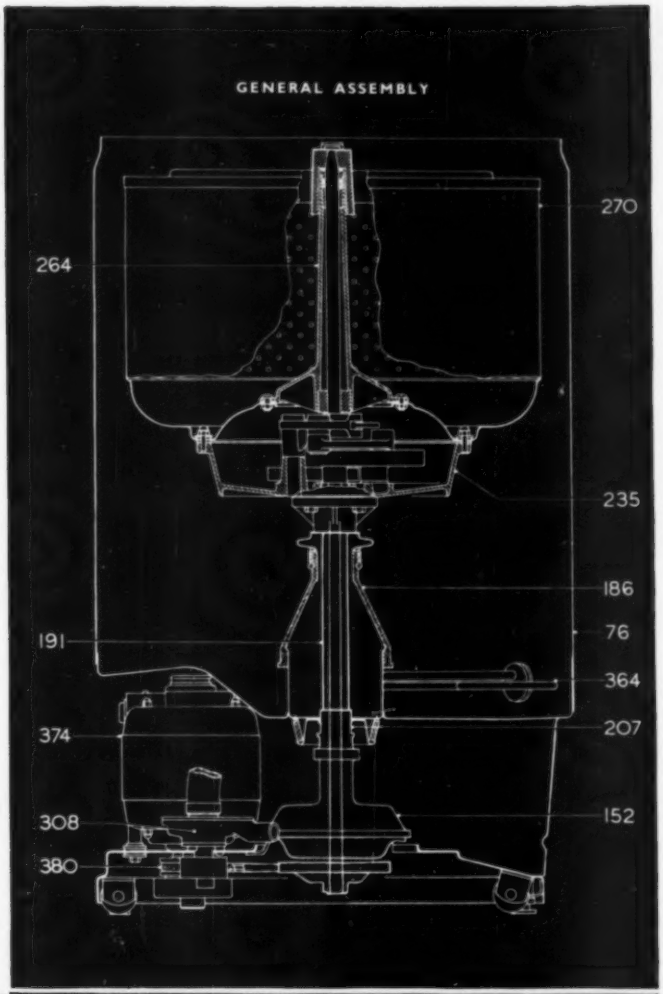
**Modes of operation**

Considerable ingenuity has gone into the mechanical design of the *EW60* to produce the three desired modes of operation, and in this section it is intended to describe how the machine functions mechanically.

*Wash.* The action of washing is produced by a system of agitation, in which a plastics agitator, mounted in the basket, moves through about 180°, 52 times a minute. Drive is provided by the motor when the timer is turned to WASH. The motor rotates clockwise at 1425 rpm (nominally), driving the main drive shaft via a pulley system incorporating vee belts.

Referring now to the exploded view of the clutch assembly, **2**; under conditions of wash the brake drum, 152, in the clutch mechanism, rests upon the brake cone, 160. The lower sleeve helix, 150, keyed to the driving shaft, rotates clockwise carrying round with it the upper sleeve helix, 151. This part runs clear of the inside of the brake drum. As the basket is supported by the brake drum, **1**, then to all intents and purposes the basket is fixed to the base of the machine due to friction of the braking surfaces. Running up the centre of the supporting tube, the drive shaft locates with the agitator gears so producing the necessary motion.

1

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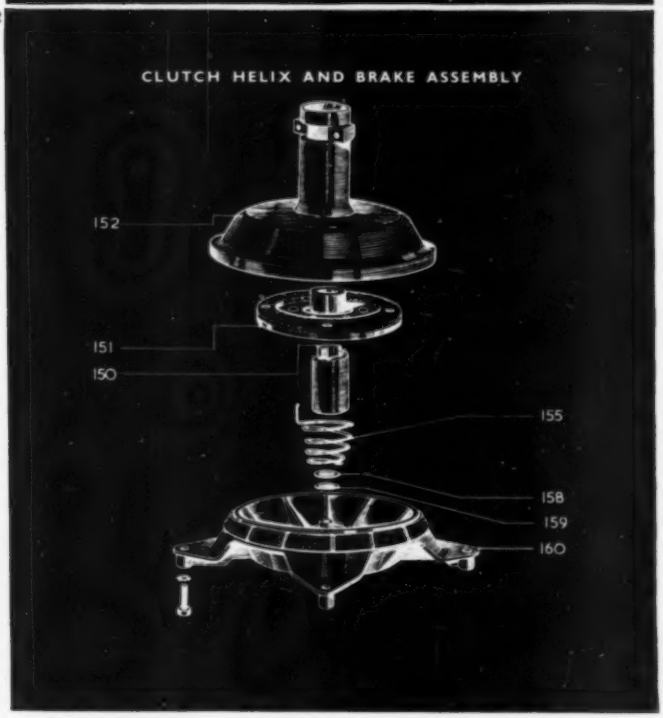



**1** A general assembly drawing showing the main elements of the machine. 76 outer container; 152 clutch and brake unit; 186 snubber support; 191 support tube; 207 damper; 235 gear assembly; 264 agitator; 270 basket; 308 water pump; 374 motor; 380 drive belt.

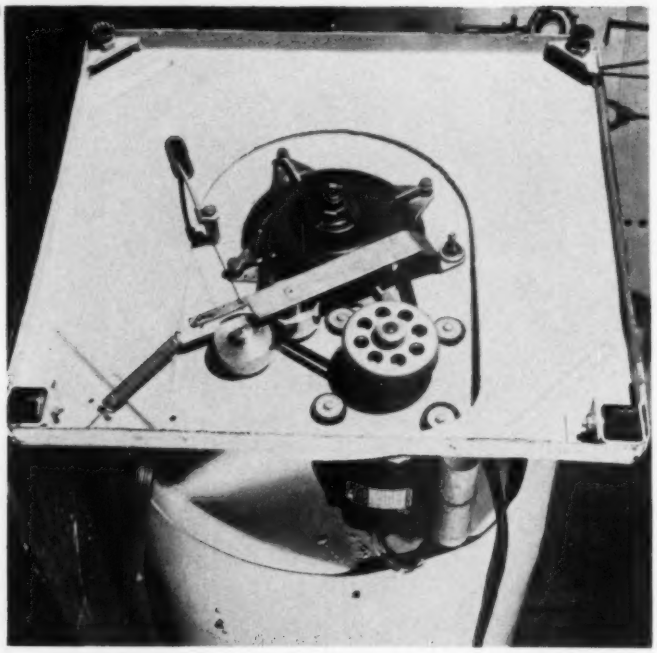
**2** Detail drawing of the clutch and brake unit. 150 lower helix sleeve; 151 upper helix sleeve; 152 brake drum; 155 helical spring; 160 brake cone.

*Spin*. The action of the machine when it commences spin is neatly thought out. The design aim here is to stop the agitator action by some means before spin commences. By reversing the motor start phase, the motor on 'spin' drives anticlockwise. As soon as the drive shaft commences to turn, the upper sleeve helix, 151, which on 'wash' lies clear of the brake drum, rides up the oblique cut on the lower helix sleeve, 150. This action is strong enough to overcome the helical spring, 155, the ends of which locate in the upper and lower helix sleeves. Thus the spring is held in tension while the motor is driving. The clearance between the upper clutch plate and brake drum is carefully adjusted at the factory so that the vertical movement up the helix is sufficient to lift the brake drum – and the whole load supported by it – clear of the brake cone, 160. Thus the motor drive is now connected to the outer tube, and but for a 180° turn of the drive shaft as the helical action takes place, there is now no relative movement of the drive shaft gear and the agitator gear. The basket is now driven directly by the motor at about 850 rpm. As soon as the timing mechanism has run back to zero, power to the motor is shut off. Immediately the helical spring overcomes friction between upper and lower helix sleeves, letting the upper sleeve run back down the helix, and so dropping the brake drum back on to the brake cone. The brake linings rapidly bring the rotating basket to rest.

When running up to speed on 'spin' there may well be considerable out of balance forces due to the distribution of the wash inside the basket. The machine has no system of dynamic balancing. Instead, the two plain bearings supporting the drive shaft allow some $\frac{7}{16}$-inch movement out of true, allowing the basket to gyrate and spin on an axis through the combined centre of gravity.

*Pump*. To start the pump, the user must operate both the timer and pump controls. With the pump control at EMPTY the action is to remove any water from the outer container, and deliver it through internal plumbing to the waste pipe. The exhaust hose

3



connection is on top of the machine, at the back.

The second operation which can be carried out is with the pump control at PUMP. Instead of exhausting the outer container to waste, the pump returns water from the outer container to the basket.

Drive from the motor to the pump is by belt. Operation of the pump control moves, via a flexible cable link, the jockey arm carrying an idler pulley (this can be seen in **3** and **4**, views of the underside of the base). By so moving the drive belt, its back comes in contact with the pulley mounted on the pump drive.

#### The washer in use

It was generally agreed by the testers that the washing action was satisfactory – with the exception perhaps of heavily soiled articles where it was found best to under-load the machine. A recent report in *Which?*[1] compares favourably with DESIGN's assessment in this respect. It must be borne in mind that cleansing is partly a function of temperature, and bleach is not readily released from a detergent during the relatively short period of a machine washing cycle until the temperature exceeds about 190°F. Spinning, too, was satisfactory, although one tester pointed out that the action was not as good as a Frigidaire spin dryer that was currently used by the household. The peripheral speed of the 19-inch diameter basket of the *EW60* is about 73 ft per sec, and that of the smaller Frigidaire 107 ft per sec. However it is not expected that a single tub machine with large diameter should equal the performance of a small diameter, high speed spinner.

Best rinsing results were obtained when a warm water supply rather than cold was used. But it is wasteful of warm water if 'overflow rinsing' is carried out, ie with water from the mains flowing into the basket and overflowing into the outer container. The agitator is working, stirring up the clothes, and the pump driven also by the motor, exhausts the rinse water to waste. At first sight it might appear unnecessary to have a 'pump' mode on the timer control, for the same procedure can be carried out in the 'wash' mode. In this case, however, there is a possibility that the user might leave the machine for some reason; the timer would eventually stop the agitator and pump, but the inlet rinse water would continue to flow into the machine with unpleasant results.

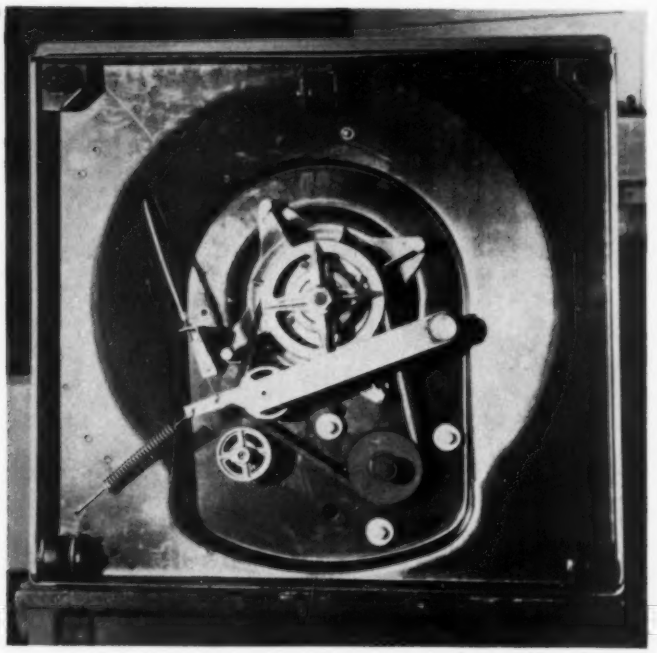
But of first importance is, of course, that the machine should work reliably. There is an unfortunate history of machine failures which occurred during normal usage. With all of these the manufacturer is familiar, and the failures probably stem from the rapidity with which the device was designed. In all it took only two years from the inception of the design, through all stages to production. The shortcomings have been or are being overcome by suitable modifications.

#### Mechanical failure

There were several faults and mechanical failures common to the machines used by DESIGN. One was due to the jockey arm spring (beneath the base of the machine, **4**) slipping out of its locating hole. Associated with this is an apparent weakness in the design of the drive system. Due to the type of motor used, it is necessary to limit starting torque in the 'spin' mode so that the motor can run rapidly up to speed. The inclusion of some form of slipping clutch (not to be confused with the clutch inside the machine) between motor and load is thus necessary. On present production models slip is provided by means of a mechanical clutch bolted on the motor drive shaft, shown on the demonstration model in **3**. However this had disadvantages: early designs had a slip loading set at 450-550W (related to motor loading). Consequent reduction of this figure due to bedding down in use produced a number of failures on spin, and this value had to be raised to 550-650W. This design is being replaced by a slipping belt, as in **4**, together with a modification to the pump and idler pulleys. It is obviously cheaper than the clutch and should transmit power more quickly

[1] *Large washing machines, Which?* Sept 1960, Consumers' Association Ltd.

4

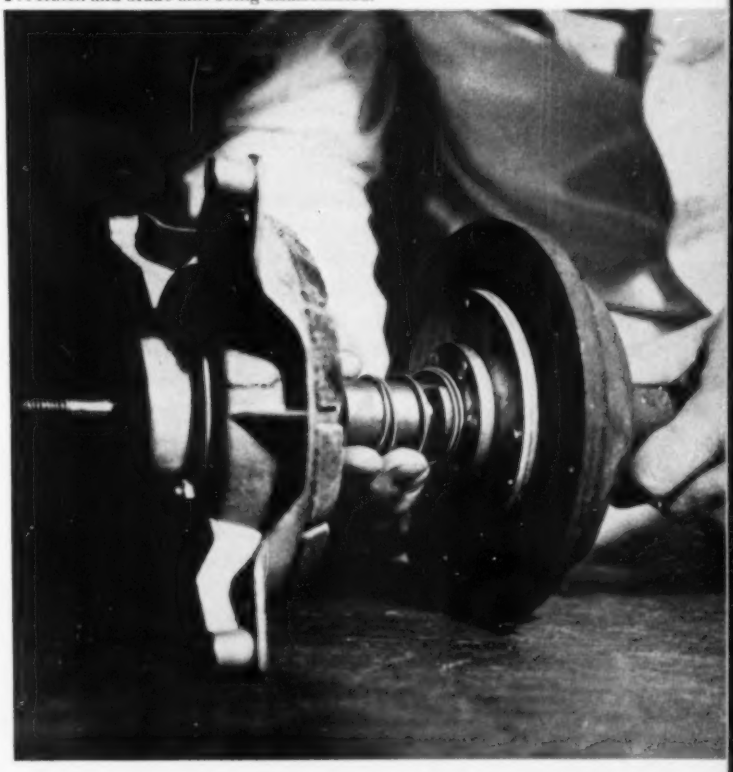


**3** A slipping clutch, bolted to the motor drive shaft, is shown here on the underside of a demonstration model.

**4** Under view of a production model which has a slipping belt drive.

*Photographs* **3**, **4**, **5**, **15** *and* **16** *by John Garner.*

**5** A clutch and brake unit being disassembled.



and more smoothly. This more recent design was incorporated initially on the machines used by DESIGN, but in two cases these were eventually replaced by the original slipping clutch mechanism. On the machine still using the slipping belt, the belt itself broke after about three months due to fraying on a casting.

A second common fault was with the micro-switch mechanism which is fitted to cut power whenever the lid of the machine is opened – to comply with British Standard 3287.[1] In the *Parnall* the micro-switch is mounted on the outside of the outer container, actuated by a linkage near the hinge of the lid. On several occasions this safety switch was found to be intermittent and sluggish in operation. The maker points out it was during the early production stages that the British Standard was published. To comply with the safety clause on spinning the design had to be modified to incorporate a switch. The rubber on which the switch is mounted got a permanent set so causing occasional failure. The design has since been modified.

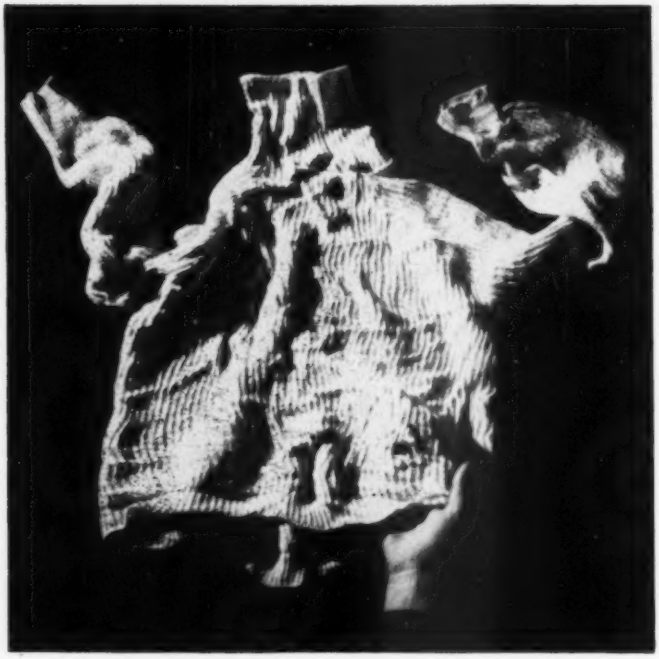
On one machine the spinner brake action was erratic due to an incorrectly adjusted gap in the internal clutch mechanism and, secondly, the lower clutch helix sleeve, 150 on **2**, and **5**, sheared. This was the worst mechanical failure during use and it occurred during the seventeenth load, after three weeks' use.

At that time the lower sleeve helix was made of sintered iron. Density variations in the structure during the production of this shape leave the stepped edge – through which all drive power is transmitted – weak. Having had several failures of this kind the maker turned over to aluminium bronze for this part, and a further change to main metal, an amalgam of aluminium and zinc, is being undertaken.

**Is it safe?**

Inspection of various models showed the electrical components to be well isolated from any likely contact with water. Provided the

[1] *Domestic Electric Clothes-Washing Machines, BS 3287: 1960*, British Standards Institution, 6s.



**6** This garment was torn in a machine during user tests.

brake is correctly set at the factory there is no doubt the machine complies with the BSS requirements that the spinning drum should come to rest within 10 seconds of opening the lid. In fact the average retardation time was about 4 seconds. There are no unpleasant projections which could be considered a hazard to the user or a child. A safety cut-out on the thermostat acts if the heater is turned on with no water in the outer container.

While no accidents are likely to happen to the operator, the laundry can suffer, **6**. The illustration shows an Orlon sweater which was badly torn in a machine, and another user tore a blanket. If the user turns the timer through PUMP when there is little or no water in the basket (page 13 of the instructions), the agitator blades start working and are liable to tear any garments, etc, packed around the basket. This could also happen if the user wishes to spin a load twice. The timer can only be turned clockwise, which means going through the pump and wash modes. The user has to remember to open the lid of the machine to disconnect the power supply if she wishes to avoid damage to the laundry.

#### Unusual effects

There are also some unusual effects which can happen, and although not likely to be dangerous, can cause the user alarm. Should the timer be turned through any 'off' position quickly – maybe the operator has wet hands or the timer switch is unduly stiff – the machine will continue to function in the previous mode, as though nothing had happened. This is because the motor has a centrifugal switch (for the start phases) in series with the supply from the timer switch which only closes when the motor is at rest. And it is the direction of rotation of the motor which determines the modes 'spin' or 'wash'. If the user opens the lid to see what has happened, the power is, of course, shut off by the safety switch, the motor stops, and on closing the lid will start in its new mode of operation.

After overflow rinse, it is usual for water to be spun out of the clothes into the outer container. One user found the machine would not start to spin. The reason, while exposing some weakness in the machine's design, also indicates a cunning approach by the designer to minimise the weakness.

As mentioned previously, during overflow rinse water is being supplied from the mains, flowing into the basket and spilling over into the outer container. At the same time the water pump is exhausting the container to waste. Should the rate of inflow exceed the rate of exhaust, then the outer container will slowly fill, and the basket will eventually float off its brake. The throw of the helix may be insufficient to re-engage the basket with drive. In an attempt to overcome this, the hose/tap connections are designed to burst off whenever the rate of flow of water input exceeds about three galls per min. But in practice the pump can be beaten.

Indeed, as there is no mention of this effect in the instruction booklet, another user bound the inlet hose to the tap because "it kept slipping off due to the unusual shape and it took so long to fill the machine in any case". So although the user is in fact wrong to try and rush things, having no indication of this effect, it is hardly surprising that mistakes in using the machine can be made.

#### Is it fitted to the user?

Mechanical failures apart, it is the apparently trivial shortcomings which caused the most concern. And, in general, the way in which the machine is designed for the user can be criticised.

With the existing control knobs the legibility of the grey numerals on a gold background could have better contrast – the colours varied between machines. Some of the figures on the heater knob are obscured by the pilot light. Users also complained that the temperature markings do not coincide with the temperatures often required for washing – 160°F is not marked, for example, and the user has then to guess at a setting. There is no index setting mark on the control panel, but the maker points out that the thermostat markings are only approximate.

**Sequence of operations for operator and machine**

A functional mode requiring machine action, and therefore setting of the controls, is marked with an asterisk.

1 Fill basket from tap
* 2 Fill outer container from basket
* 3 Heat water
* 4 Fill basket from outer container
} if required to heat water in machine
5 Put in washing powder
* 6 Agitate washing powder for few moments
7 Put in clothes
* 8 Wash (pre-set up to 10 mins)
* 9 either (a) Spin and empty (pre-set up to 5 mins)
or (b) Spin and conserve soapy water (pre-set up to 5 mins)

If 9 (a), either: rinse
10 Fill basket with rinse water
* 11 Agitate (rinse) select preferred time
* 12 either (a) Spin and empty
or (b) Spin and keep water

or: overflow rinse
17 Fill basket with rinse water
* 18 Agitate(overflow rinse) and empty simultaneously with water filling (no pre-set time possible)
19 Turn off water input
20 Wait for outer container to empty (ie, machine action for 18 continues)
* 21 either (a) Spin and empty
or (b) Spin and keep clean water

*If 12(a) or 21(a)*
13 Remove spun clothes
14 Half fill basket with water
* 15 Spin and empty until all water gone
16 Lift agitator and clean basket

*If (12b) or 21(b)*
22 Remove spun clothes
23 Start again on next wash, from item 4 onwards

*If 9(b)*
24 Remove spun but unrinsed clothes
25 Start again on next wash at item 4 but probably omit items 5 and 6
26 To rinse unrinsed clothes, put them into empty basket and continue from item 10 or 17 onwards

To carry out the above sequences the operator must set the machine controls at each stage, marked * above, to put it into the correct functional mode. The individual actions to set the machine in these modes are listed below.

| Sequence function | | Setting of Pump control | Setting of Timer control |
|---|---|---|---|
| 2 | Fill outer container | 0 | Spin (2) |
| 3 | Heat water | | Off (set heater) |
| 4 | Fill basket from outer container | Pump | Pump |
| 6 | Agitate | 0 or Pump | Pump |
| 8 | Wash | 0 | Wash (1 to 10) |
| 9(a) | Spin empty | Empty | Spin (1 to 5) |
| (b) | Spin keep water | 0 | Spin (1 to 5) |
| 11 | Rinse | Empty | Pump |
| 12(a) | Spin empty | Empty | Spin (1 to 5) |
| (b) | Spin keep water | 0 | Spin (1 to 5) |
| 15 | Spin empty | Empty | Spin (1 to 5) |
| 18 | Overflow rinse | Empty | Pump |
| 21(a) and (b) same as 12(a) and (b) | | | |

Nor is it easy to read the wording on the pump control when in the O position, vertically, **9**, and the user has to remember which way to turn it and then check if the action was correct. Due to the non-positive action of the switch it is possible to flick straight through the O position, when turning against the strong jockey arm spring.

All users had difficulty in learning to operate the machine mainly due to the permutations and combinations of control settings required to obtain the various functional modes. Confusion also existed between the name PUMP appearing on both main controls. A detailed analysis of the sequence of operations for operator and machine was carried out by DESIGN to determine a preferable lay-out for the controls. It is obvious from the analysis, **7**, that the action following from most machine control settings is conditional upon the setting of the other control – which is inevitably a confusing situation. Again, the appearance of the same name for a particular position on both controls is confusing.

Above all, the operator knows fairly quickly and well which sequence function she next wants to carry out and then, at present, has to remember, or hunt through the pages of the instruction booklet, which control settings will provide that function.

**How could the operator be helped?**

If a table such as the one LEFT, giving the control settings for each function, were put in the instruction book or on a plastics label inside the lid of the machine, this would go some way towards helping the operator to learn the controls and find the right settings. Alternatively, a greater degree of machine mode programming would be much better, while retaining the same degree of flexibility. For instance, the diverse modes could be listed by name, and by turning one switch only the machine sets up its own mechanical modes of operation.

Increased expense due to more complex engineering may not

permit such modifications. In this case it is suggested that if all settings cannot be made by one main selector, then by appropriate coding at each position of the main selector, the operator should be told what to do with the other control knobs. By this means no memory would be needed; with the main selector at the mode required the positioning of other controls could be read off.

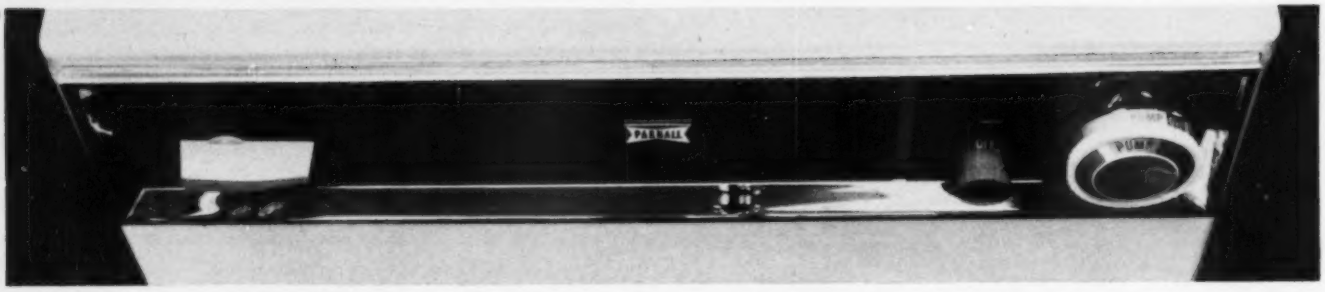
A control layout based on table **8** is suggested. The wording is that which would appear behind the window of the main selector switch. The word 'case' is a substitute for 'outer container', and 'tub' for 'basket'.

**8**

| Sequence function no. | Main selector | | Pump selector | Timer setting |
|---|---|---|---|---|
| | *Knob o'clock* | *Wording* | | |
| | 12 | OFF | | OFF |
| 2 | 1 | FILL CASE | ● | 2 |
| 3 | 2 | HEAT | ● | SET HEATER |
| 4 | 3 | FILL TUB FROM CASE | ▬ | 2 |
| 6 | 4 | AGITATE | ● | ON |
| 8 | 5 | WASH | ● | 1–10 |
| 9, 12, 21(b) | 6 | SPIN KEEP WATER | ● | 1–5 |
| 9, 12, 21(a) | 7 | SPIN EMPTY | ▼ | 1–5 |
| 11 | 8 | RINSE | ● | 1–10 |
| 18 | 9 | OVERFLOW RINSE | ▼ | ON |

9

10

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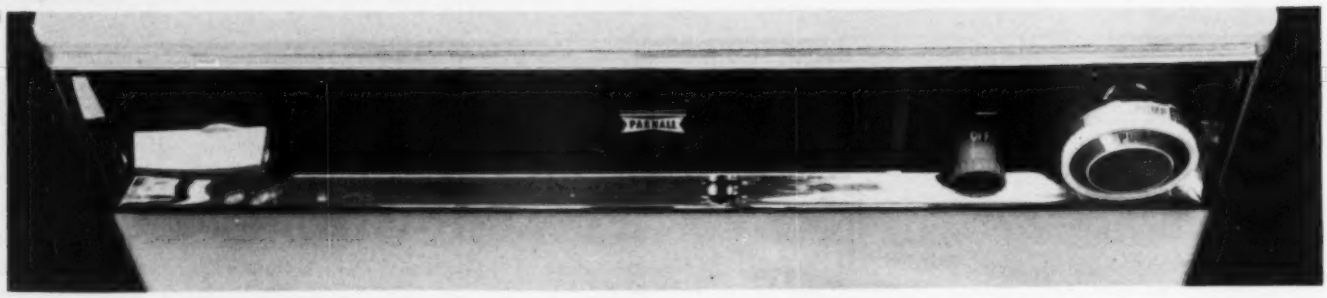



**9–14** Comparisons between mode selection on the *Parnall* and rough designs derived from the analysis which was carried out. On the suggested design the pump control is the same as in the *Parnall* design but with positions colour and shape coded. The function selector switch which sets up 'pump', 'wash' and 'spin' modes (as does the present combination timer and partial mode switch) now has a large dial set behind the panel. The operator could read at a glance, through windows, in what position to set the pump and new time switches, by means of the colour-coded shapes and numerals, etc, corresponding to the indi-

**Instruction booklet**

Many criticisms stem from the inadequacies of the instruction booklet. In itself it is fairly comprehensive, but the three main sections are jumbled together. For example, information on how to work and maintain the machine appears on pages 1-3, 6-9, 12, 13 (top half) and 20, whereas general advice on washing methods and various facilities are scattered on pages 4, 5 and 13 (bottom half) – 19. Pages 10 and 11 carry programme guidance and give approximate washing times and temperatures for various clothes, etc.

Nowhere does it give details of the snags or shortcomings which the housewife may meet, and which may cause her anxiety should one of the 'unusual effects' occur. In early editions of the manual some instructions and an illustration are wrong; and there is no clear statement of what happens for each possible combination of controls – the manufacturer might be cheating himself here in not stating the complete flexibility of the present design. Two important warnings are printed in red capitals set solid, tending to make them unreadable.

In contrast, the maker has gone out of his way to be helpful in carefully describing how to wash various clothes and materials.

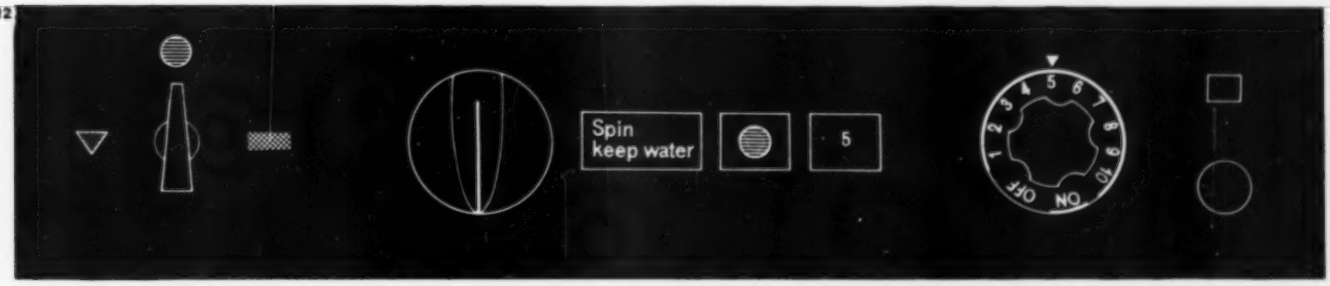
**Operation and maintenance**

The *EW60* is mounted on castors, two at the back and one at the front. Screw feet at the front must be lowered to provide stability on spin. It is advantageous to have such a system so that the machine can be periodically removed and dirt swept out from behind it.

The heater was criticised by some users for the time taken to heat water; eg, with a water supply at about 50°F it took about 1½ hours to heat to an indicated 190°F, but this time is normal for any 3kw heater. The whole pattern of the machine's behaviour took some time to get used to, and operators who had experience of twin tub machines were discouraged by the protracted time of a complete laundering cycle. While the machine offers good flexibility and water conservation, if the user has to do more than one load per wash then either the whole sequence of wash-spin-rinse-spin must be completed for one load before the next is started, or the one load must be removed manually after the first wash if water is to be saved. In either case the laundering cycle must be progressed consecutively rather than parts done concurrently, as with a twin-tub machine.

It is easy to load clothes into the *Parnall*, and the height of the

12

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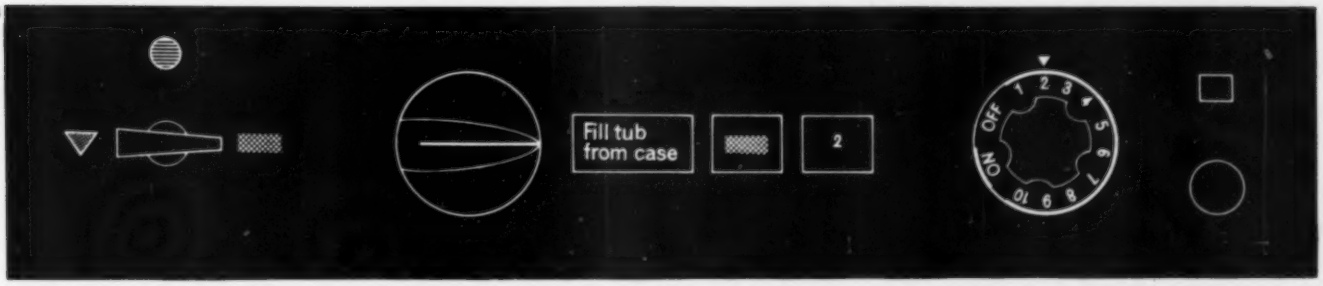



14

cations on the relevant controls. The new time switch sets only either continuous infinite 'on' or a preset 'on' time position. The heater switch and lamp are as at present, but separated further for minimum obscuration of the heater markings. It can be seen that the way in which the design for the new control panel has been evolved stems from a study of the human operator's action – limits being imposed by the present functioning of the machine. This design method is an application of the approach discussed previously in an article, *Control Loop Concept* (DESIGN 148/42-48).

15

16

**15** and **16** For the average woman (5 ft 3 inches), the basket is easy to load and clean.

basket is about right so that they can be simply removed, **15**. The hoses are easy for the housewife to locate on the machine due to the use of colour coding for the hose nozzles and sockets. In general the machine is simple to clean, **16**, but for the gap between lid and top around the hinge.

#### Appearance and finish

One or two details of the finish demand further attention. For example, the filling of the wording on the pump control soon wears thin, and the printed metal strip of lettering around the timer control tends to crack and peel. Rubber stops which cushion the lid perish rapidly (the material is being changed), but otherwise the construction and finish are to high standards.

The styling too has been handled well by the designer. There is a minimum of chrome flashing – just around the control panel; the slight flare backwards on the removable panel at the base of the machine on the front breaks the otherwise massive appearance. The height complies with the BS size of 36 inches but it is 22 inches square. Against a BS sized sink unit it would stand proud by about $1\frac{1}{2}$ inches – the odd $\frac{1}{2}$ inch being needed for clearance of the mains supply cable which comes out of the back.

#### Conclusion

This report has been highly critical of some aspects of the design, but there can be few criticisms about the production engineering of the *Parnall* which is to high standards. Where the maker does seem to have failed is in limited testing under actual conditions of use, and this is indicated by the relatively short two-year design-production-marketing period. DESIGN has been told that in the case of the mechanical failures experienced and some details of construction, the maker is well aware of the shortcoming and has made modifications accordingly.

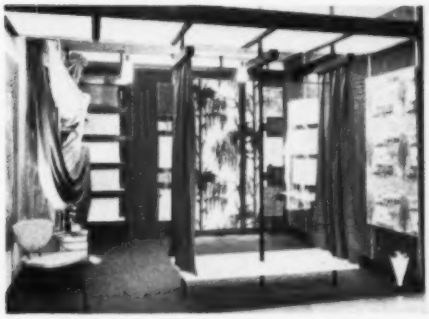
What the testers have become aware of during analysis are the limitations in the use of any fully or partially programmed washing machine. In terms of hot water conservation, which must be a worry to many households, there are advantages in using a 'semi-automatic' machine such as the *EW60*. In terms of stopping and restarting certain modes of operation there are advantages also.

Yet in the actual way in which the housewife does her washing, machines appear to have minimised manual labour and substituted detailed thought and waiting time. While there is nothing to stop the user doing some other job as the machine carries out some function, she has to remember not merely that after wash comes spin but after wash comes knob A to the left, knob B clockwise to 3, etc. The paradox is that fuller *sequential* programming hardly suits her needs either, particularly when the laundry load is mixed. On the face of it, rather does she seem to need more *mode* programming; ie, retain flexibility by allowing the operator to select any desired part of the wash-spin-rinse sequence at any time, but make the machine do the task of determining how it is to work. In other words, one control only for the user to turn.

From DESIGN's limited study it seems that minimisation of waiting time is nearly as important to the housewife as reduction in manual labour. Yet the *Parnall* amplifies waiting time due to its sequential operation as must any single tub machine. Similar remarks, however, could be made of other types of domestic labour saving devices, and the *Parnall* is not alone in this respect. Rather has this interesting machine served to demonstrate the extent to which mechanical ingenuity can be stretched in the service of the housewife. More detailed studies of users' needs and actions might well lead to the development of washing machines even better suited to the housewife's diverse requirements.

# SHOWROOM VERSATILITY

1



3

John Wilkins Equipment Ltd, manufacturer of *Wilpower* shop fittings, recently opened a new showroom in Clerkenwell. The firm demonstrated the versatility of its range of fittings by dividing the showroom into 10 sections, and by commissioning individual designers to portray in each a different retail shop, using the *Wilpower* equipment in the way best suited to the particular context.

For instance, Hulme Chadwick's glass and china shop, **1**, and Beverley Pick's interior decorating shop, **2**, make extensive use of poles and free standing, spring loaded columns. The former also incorporates a floodlit canopy holding a number of glass shelves which lends to the objects displayed an effective 'floating' quality. Ellis Somake's supermarket, **3**, on the other hand, uses 'gondolas' and shelves carried on wall strips and brackets.

Other designers producing shops for the scheme included Misha Black, R. W. Freeborn, Jim Downer, Thual of Paris, and John Tandy.

# Co-ordination for consumer research

JOYCE BLOW

*This article outlines the work of the leading consumer organisations in Sweden, and describes how they co-operate on their various research and information projects. These include product testing, anthropometrical research and market surveys, and whereas in this country, each of the organisations involved in consumer research seems to fight its own lonely battle, the Swedish system for consumer education and protection is highly integrated. It also enjoys the support of government, industry, and the public.*

*Later articles will deal more specifically with research carried out by Svenska Slöjdföreningen, and will describe the results of investigations into the dimensional requirements of dining tables and chairs and domestic storage equipment.*

Much of the consumer research work in Sweden is financed from public funds. The disbursement of an annual grant for general consumer research is in the hands of the Statens-konsumtråd. This Consumer's Council acts as an official co-ordinating body between the various organisations carrying out research; it consists of 15 members drawn from various sections of the community, including journalists, representatives of women's organisations, trade unions, etc. Its main function is the distribution of money for research, and its annual budget of 800,000 Sw kr (approximately £55,000) can go to supplement research work being carried out by bodies which already receive official support, but it is also prepared to contribute to private enterprise research if this wins its approval. The Consumer's Council also works to improve manufacturer/consumer relationships, and is a channel for ideas both to and from the government.

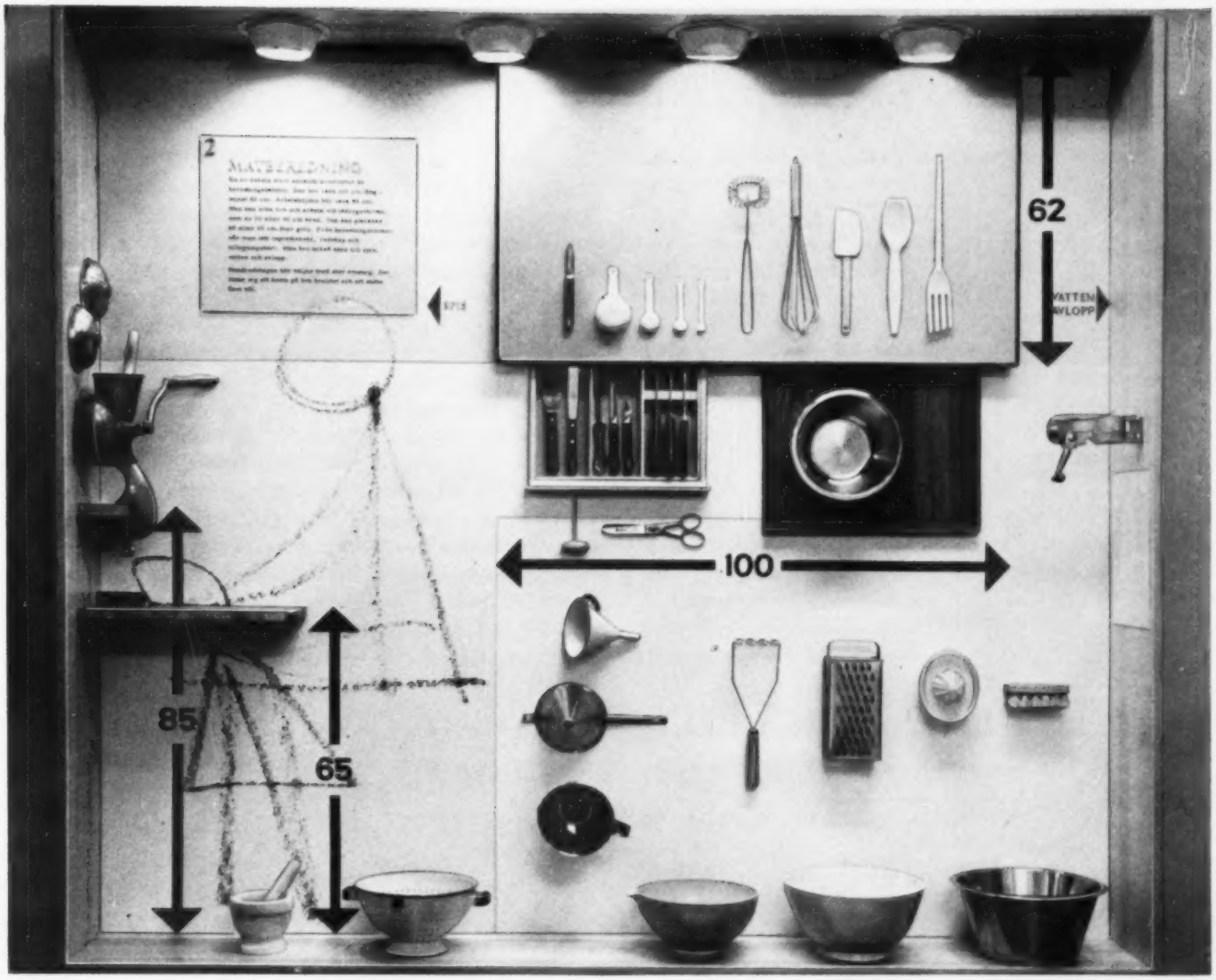
One of the main executive bodies in the field is the Statens Institut för Konsumentfrågor – the National Institute for Consumer Information, or, more simply, the Consumer Institute. The institute, which was set up in January, 1957, is entirely financed by the state, and is built on foundations laid by two other bodies, Aktiv Hushallning – Active Housekeeping – and Hemmens Forskningsinstitut-HFI (the Home Research Institute). The former was established in 1940 as a state information service to advise housewives on how to cope with rationing. HFI was set up, on private initiative, in 1944 to carry out research into all fields bearing on everyday life in the home, this to be achieved by a combination of fundamental investigations into consumer requirements and product testing. The organisation received a state grant from the start, but only on condition that this was matched equally by contributions from industry and other interested bodies.

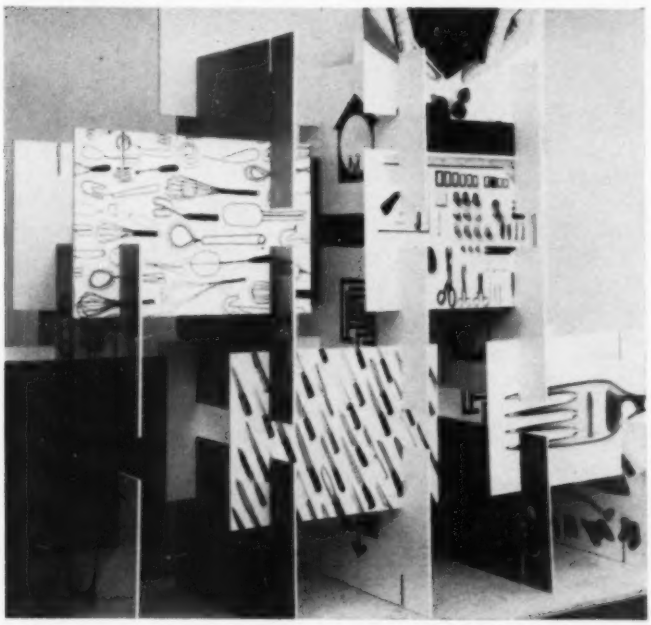
HFI set its sights high from the beginning. Its first investigation was into kitchen planning (some preliminary work had already been carried out by Svenska Slöjdföreningen, the Swedish Society of Industrial Design), and into kitchen tools (DESIGN 99/40-5). Out of the planning research came the standardised kitchen, **4** (page 74). Investigation into kitchen tools began as an exercise in comparative testing. In the case of knives, it was found that there were 300 types on the market, none of which HFI thought perfect. So HFI produced its own designs. Significantly these were soon taken up by manufacturers and came on the market.

### Rationalisation for research

In 1954, to secure rationalisation, Active Housekeeping was absorbed by HFI, which immediately received a government grant to cover 85 per cent of its running costs. At the beginning of 1957 came the re-organisation of HFI as a wholly subsidised body and its change of name to the National Institute for Consumer Information. Its present annual budget is 900,000 Sw kr (approximately £62,250), and it receives an additional grant from Statens-konsumtråd. Any income it earns from testing, publications, etc, returns to the government. Its present staff is about 50, including a laboratory staff of home economists and chemists.

Its terms of reference are "to strive for rationalisation of working conditions in private homes and collective households and to ensure that production and consumption are directed towards good and useful consumer goods". It has four departments – household equipment; food, chemicals and technical; textiles; and information. The Consumer Institute's approach to research is integrated and organic. In other words, there is much less tendency than in this country to separate fundamental research from product testing. In the case of items of domestic equipment that are a big investment for the consumer, the emphasis is likely to be on comparative testing. This may lead to a fundamental survey, on the inductive methods of basic requirements for a class of products, as is the case at present with washing machines; but



**1** One section of the Consumer Institute's permanent exhibition demonstrates the equipment and space needed in various working areas of a kitchen for an average sized family. The illustration indicates the essentials for food preparation; according to Consumer Institute research, the Swedish housewife needs all the items of equipment illustrated; the recommended dimensions for the working surface are 3 ft 3 inches long, and 2 ft 2 inches or 2 ft 10 inches high, according to whether the housewife prefers to work sitting or standing.

**2** A display stand from the Consumer Institute's permanent exhibition *The Home – its Layout and Equipment;* this exhibit gives an indication of the scope of the institute's work – research of various kinds has been carried out on all the objects illustrated.

**3** As well as its permanent exhibition, the Consumer Institute holds regular specialised displays. A recent one demonstrated, with life size dummy figures, the space required for various activities in the home.

where less expensive items are involved, the institute is more likely to concentrate from the start on fundamental surveys, to enable recommendations to be made to industry for a general improvement in the conception of a design. In these surveys, the Consumer Institute may co-operate with consumer bodies in other Scandinavian countries.

The institute also undertakes market and opinion surveys – it recently enquired, for instance, into working conditions in a thousand Swedish households.

Apart from occasional reports, guide books on working methods, the provision of lectures, film strips, material for television and the press, the institute has three regular publications: *Råd Och Rön*, a newsletter providing up-to-date information on product tests to supplement *Köpråd*, which in each issue concentrates on a particular type of product – vacuum cleaners, bedding, etc. The third publication, *Konsumeninstitut Meddelar*, is technical, covering fundamental research and methods of testing, etc, and is aimed at industry and those professionally interested.

Having persuaded the consumer to buy a good product, the

**4** This kitchen, equipped to Swedish standard specifications, also forms part of the Consumer Institute's permanent display.

institute also concerns itself with 'after-care', for it believes it important not only to buy the right thing, but to know how to look after it. It answers many enquiries on this and other aspects of its work, not only by post: between 9-12am each day, it may receive as many as 100 callers. It also maintains an exhibition in the centre of Stockholm, and there are similar centres in Göthenburg and Malmö. It is hoped to establish others.

In addition to its own planned surveys, the institute undertakes product testing for manufacturers at the prototype stage. Prevention is better than cure and the institute regards this as an important aspect of its work, for not infrequently improvements are secured in the product before it is launched on the market. There is a charge for this testing, on which the manufacturer receives a confidential report.

The Consumer Institute has a good deal of equipment on its premises for user testing, but technological research is farmed out to various other bodies. The scientific aspects of food testing, for instance, will be done by the National Health Institute, the technicalities of domestic equipment will be investigated by the Institute of Technology. In its user tests the institute puts great stress on scientific method and frowns on home testing, other than by its own trained staff.

**Labelling schemes**

Varudeklarationsnämnden VDN (the Institute of Informative Labelling) was set up in 1951 as one of several independent organisations affiliated to the Swedish Standards Association. This institute supplements, promotes and codifies much of the consumer research work being done by other organisations in Sweden. Its brief is "to promote the informative labelling of consumer goods, and especially to ensure that such labelling is dependable and reasonably uniform".

The information on the label, **6**, or D-mark, as it is called, is primarily a statement of characteristics rather than of contents. Indeed it is felt that content descriptions are not only secondary but, if unsupported, can be incomprehensible or misleading to the layman. Judgments of appearance, taste or function are excluded as not capable of measurement, and statements on the labels are

**5** Work in the Consumer Institute's laboratories. Here the research worker is measuring the whiteness of cloth.

confined to technical information and other factual data.

The labelling system differs from our BS Kitemark in frequently specifying grades of quality. The label for aluminium pans, for instance, besides stating capacity and heat resistance of the handle, will also give a figure for strength, resistance to burning and flatness of bottom, each on a scale of 1-5. Labels for items where fabrics are used will include some indication of fade resistance. The amount of information given varies, of course, with the complexity of the product, but as manufacturers label their products according to a uniform system, the customer can readily make comparisons.

The system obviously depends on the establishment of criteria and recognized testing methods. This means that, for each category of goods, the institute has to decide what factual information should be included on the label and how the various measurements indicating quantity, quality or ingredients are to be established.

To this end committees are appointed for each group of products to work out labelling specifications. These committees of representatives from industrial, retailing, and consumer groups are responsible for steering a labelling project through its various hazards, but the establishment of test criteria is delegated to any one of a number of testing organisations. Svenska Slöjdföreningen, for instance, established test methods for determining the strength of armchairs, upholstered furniture and bookshelves, **8** and **9**; the Leather Research Institute for the properties of shoe materials, and the Consumer Institute for the density of glass and insulating properties of vacuum flasks, and so on. Lists of available specifications range from flags to canned fishballs.

Once the specification is agreed, a manufacturer may apply to the institute for permission to use a label and for this permission he pays a yearly fee. The establishment of test criteria and methods of testing is particularly important as the manufacturer himself is responsible for filling in the label specifications for his products. This sounds a bit risky, as no checking is done before the product comes on to the market, but so far, we are told, there have been no cases of misrepresentation. This may be because, during the year of contract, the institute buys a stipulated number of each labelled product at random in retail stores and has them checked in independent laboratories.

The Institute of Informative Labelling is financed partly by the government, partly by fees paid by the firms using the D-mark and partly by contributions from various national organisations.

Svenska Slöjdföreningen entered the consumer research field early in its career. As well as arranging exhibitions and courses, the society's very small but active furniture research department

**6** The D-mark, or label, which Swedish manufacturers may use on their products, includes information on function, materials and durability. Specifications for furniture were worked out by Svenska Slöjdföreningen.
**7** Svenska Slöjdföreningen also organises evening courses and lectures; here students are planning an interior and selecting the best items of furniture, all carefully drawn to scale, for the space available.

has since 1948, with financial support from industry or the government, been producing excellent reports on basic functional requirements of various types of furniture (DESIGN 149/76-77). It has also formulated testing data and methods for furniture labelling. Two recent reports, one on dining tables and chairs, and one on domestic storage furniture, will be summarized in future issues of the magazine.

**Co-operation in consumer research**

The consumer movement in Sweden differs from that in this country in that the stress is on consumer education, rather than consumer protection. This difference in approach is probably both political and economic. There is no doubt that the Swedish industrial machine is less complex, and the consumer is less exposed to mass media. At the same time the government there accepts consumer research more readily as a cost on its public funds, although there are those in this country who would see this governmental involvement as a disadvantage. The Swedes, however, seem willing to accept standardisation and a possible limitation of choice, if what results is a better product. Among the more positive virtues of Swedish consumer research is the degree of co-operation between the various organisations which take an interest in the subject, ranging from professional and trade associations to women's groups. There is also a great deal of pooling of information and resources. For example, specialist organisations will grant testing laboratory facilities, free of charge, to help another group's research project. Manufacturers are often willing, again free of charge, to make up prototypes for fundamental research projects. When survey results are published, there would appear to be much greater readiness on the part of manufacturers to apply them. Indeed, a number of these projects have been financed by industry. The growing co-operation between the four Scandinavian countries in the consumer field is also encouraging, although it is a pity that, because of the high cost of translation, much of the information is not readily accessible in this country.

The Swedes are a practical people, and it is perhaps because of this that they have avoided the schism between fundamental research and comparative testing, and consider each as part of a greater whole. There is a great deal of admiration in Sweden for the research that is being carried out in this country, particularly by such bodies as the Furniture Development Council, on whose work Svenska Slöjdföreningen has freely drawn. But it does seem as though there is a need for more co-ordination in this country to draw the various strands together. Perhaps the Molony Committee will have some suggestions to make.

**8** and **9** Furniture undergoes rigorous testing in Svenska Slöjdföreningen's laboratories. The seats of upholstered chairs are punched with alternating weights, **8**. Similar pressures are applied to chair arms and backs, **9**.

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FISH

POULTRY AND GAME

DATE

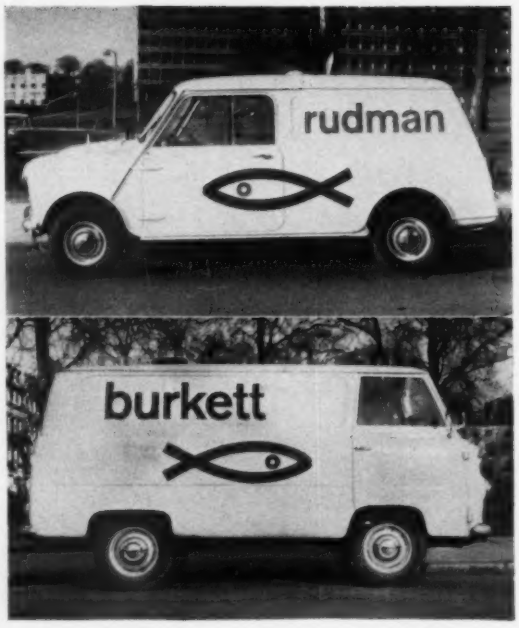
**Style for smaller fish**

Jock Kinneir and Margaret Calvert, who designed this house style for the fishmongers L. Burkett Ltd and Rudman & Co Ltd (two associated companies of the same group), have shown that a comprehensive design process is capable of excellent results even for a comparatively small business.

The relationship of the two firms (whose directors and shareholders belong to the same family) has made possible a common style, the only differentiation being by colour: the basic colouring is, appropriately enough, a deep sea blue, olive green being added in the Burkett style, and purple for Rudman's. The designers have gained additional advantage from a keenly sympathetic client who has allowed the design process to cover every detail of the style.

Happily, the client is able to report considerable rewards: the vans in particular have been much commented on, and clearly the restrained but lively simplicity of symbol and lettering will create an immediate and individual impact.

An extension of the house style will shortly be forthcoming when it appears on a Rudman shop designed by Gilbert Marsh. Again, the scheme is treated comprehensively: the lettering, signs and illuminated facia are all co-ordinated, and the style is to be extended to others of the firm's shops.



**Fair for Barrow**

This *Design Fair* held at Barrow's, a Birmingham retail store recently, was organised in conjunction with the CoID, and designed by E. Charles Gardiner. The 300 products on show were chosen from the CoID's 'Design Index', and as the store trades mainly in provisions, most of the exhibits were connected with either cooking or eating.

Mr Gardiner's treatment of the display area (with natural beech shelving and pale blue and white colour scheme) so impressed the store's directors that they decided to retain the area as a hardware showroom when the exhibition closed.

The lettering and display panels were designed by Peter Hatch.

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# REPORTS

## Status in the States

Addressing a meeting convened jointly by the CoID and the FBI on the subject of *The Role of the Designer in American Industry*, Peter Muller-Munk, American industrial design consultant, suggested that the client-designer relationship existing between the knights of the Middle Ages and their armourers remained basically unchanged. The product still required to be tailored to the user, not only physically but psychologically; all that had altered was the way in which the designer's work was integrated with the infinitely more complex structure of modern industrial production. The industrial designer had become the consumer's voice in management, while his work reflected all the best qualities of the product. The adoption of industrial design as a normal part of production had become a simple matter of economic survival.

Discussing working relationships, Mr Muller-Munk said that there was no question of the industrial designer invading the engineer's territory; he enlarged it. There were certain essential product qualities which the mere meeting of an engineering specification did not guarantee. It had not always been easy to convince the engineer of this, and it was particularly unfortunate when engineers, attempting to turn themselves into industrial designers, perpetuated some of the worst design *clichés*.

Sales departments were also the subject of some of his criticism in that they often tried to exploit the designer as a pencil for the delineation of their own ideas, or persuaded him to copy the most successful competitive product. The views of sales departments were valuable so far as they applied, but salesmen were concerned with the present and the immediate future, whereas the designer was always looking some years ahead. The period of gestation for the average product in the US was 12 to 18 months, and if one considered the expected useful life of the product, which might range from two to 15 years, the fallacy of paying too close attention to the current state of affairs was obvious.

Upon the direction of effort Mr Muller-Munk said that engineering virtuosity, encouraged by the demand for sales gimmicks, had resulted in an unwelcome degree of complexity in many basically simple domestic products. It would be better to direct our resources to the beautification of the more enduring products of industry, such as machines and other capital equipment, rather than to squander it upon gadgets.

Of market research, while there were some statistics which indicated obvious trends in consumer attitudes, surveys could be dangerous. Consumer surveys were of very questionable value, and the most dangerous – and most useless – was the 'secretarial' type of survey aimed at finding out 'how the girls in the office like it'. The person who really knew what the product should look like was the industrial designer, and it was for that reason that he was paid his fee.

Two points arising from the discussion following Mr Muller-Munk's paper threw interesting sidelights upon the outlook of American manufacturers. It seemed that they often resorted to the old argument that when business was good they did not need the services of the industrial designer, and when business was bad they could not afford them. On the other hand, they were now being compelled to take an interest in markets of which they were previously scarcely aware, and in which they would be meeting the best that Europe had to offer. The European scene had thus become of particular interest to American industrialists, and of course to American industrial designers. F. C. ASHFORD

## Advice from the scientist

The annual conference of the Ergonomics Research Society, held recently in Bristol, followed the pattern of many similar meetings by describing the results of research work in many different fields. The scientist spoke to and for the scientists, and there was little of immediate interest to the designer.

However, the formation, at the society's annual general meeting, of an industrial section, should go a long way toward ensuring a steady flow of readily assimilated information from the scientist to the designer, engineer and manufacturer. The committee members of the new section are: Peter Cavanagh, lecturer in psychology, Birkbeck College, London University; L. V. Green, manager, work study department, Dunlop Rubber Co Ltd; B. Shackel, engineering psychologist, EMI (Electronics) Ltd; Dr A. H. Jones, medical officer, British Railways Southern Region; W. H. Mayall, industrial officer, engineering, CoID; and Miss I. M. Slade, senior research information officer, Central Electricity Generating Board (secretary).

Two papers in particular pointed the present lack of *rapport* between applied and research ergonomics. W. H. Mayall, speaking on *The Designer's Demands on the Ergonomist*, drew attention to the comparatively brief time usually available for the design process. Making ergonomics a subject in the training curriculum, is, Mr Mayall observed, an excellent plan which is already being considered; but it is a long term manoeuvre. The most pressing need is for immediately available advice on methods of analysis and on the presentation of data: "It would seem possible to give the designer better information, at least within the next two years, provided a co-ordinated attempt is made to do so. Textbooks and data sheets which attempt to avoid the use of specialised terms are very badly needed".

"There is one final point which may benefit the development of ergonomics in general", Mr Mayall concluded, "that is, that in commercial design, any subject which shows commercial benefit is likely to be taken up . . . and it seems a little strange that those companies that have gained by ergonomics advice should not have exploited that in selling their equipment." This theme found an echo in *Functional Anthropometry*, a paper by R. J. Whitney, division of human biomechanics, MRC Laboratories, Hampstead. Anthropometry, he said, is the world's most saleable commodity: is it being sold and used as much as it ought to be? And are we satisfied with the available data? Mr Whitney's answer to his last question was a firm "no": although measures could be taken to extend the utility of existing anthropometric data, the speaker suggested that much of these data have limited functional significance in view of the manner in which they have been obtained in surveys carried out by traditional methods. The usefulness of anthropometry might be coming to an end, Mr Whitney warned, unless radical alterations are made to the methods of approach and research. D.C.

## Phoney publicity ?

George Him, speaking at a recent lunchtime meeting of the Design and Industries Association, gave a witty, provocative, passionate and at times outrageous plea for a return to the individuality of the designer. Mr Him's subject was publicity and he made no bones about his dislike of the way things are going at present in this field of industrial design. Publicity, said Mr Him, is a machine for selling, just as Le Corbusier's definition of a house is a machine for living in – only a house is also a machine for enjoying yourself in and a machine for showing off to the Jones.

In other words, explained Mr Him, publicity is being stifled by the facts and figures with which the advertising agency tries to surround it. What he would like to see is more honest fun and less phoney science in publicity with far more clients with enough courage (and enough money) to give the designer a chance to work things out in his own way. There were not a few questioners who clearly felt that this slightly nostalgic attitude was somewhat at odds with conditions as they actually exist.

## Planning an airport

At another lunch meeting organised by the DIA, E. P. Whitfield, traffic director, BEA, discussed airport planning. His basic theme was "airports exist for the passenger" – a fact which some planners, with their timorous "too little too late" policies tend to overlook.

He pointed out that air terminals as well as airports have been designed as national symbols, rather than as functional links in a transport system. Ideally, he felt, the internal layout of an airport should be flexible, to cater for new requirements and changes in procedure. In both types of building, routes for incoming and outgoing passengers should be entirely separate, and spectators (who should be encouraged to visit the airports) ought to have access to their special areas without trespassing on passenger routes. The internal loud speaker system should be abolished, and replaced by logical layout and an internationally understood system of signposting.

However, the biggest headache facing the airport planner is the problem of how to transport the passenger from terminal to airport, and *vice versa*. The problem is universal and acute, especially on short flight routes. BEA favours the monorail as the only possible solution, but so far, the Government has not been sufficiently convinced to put up the money.

But as Mr Whitfield pointed out, a better solution than the coach link must be found, and found quickly, if the advantages of the jet age are not to be offset by an antediluvian road system.

Maximum legibility and good taste are combined in the Gents wall clocks shown here.

Styled by a leading industrial designer they provide a choice of standard models which fit happily into present-day surroundings and décor.

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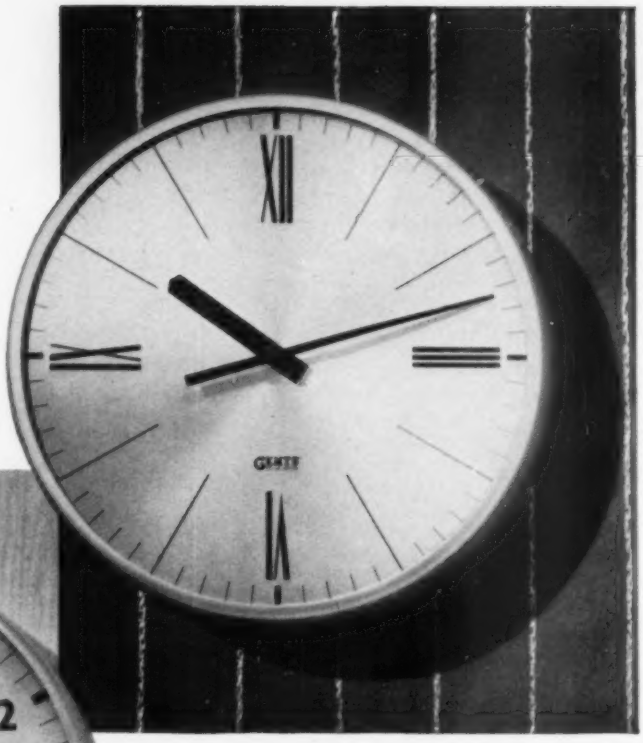
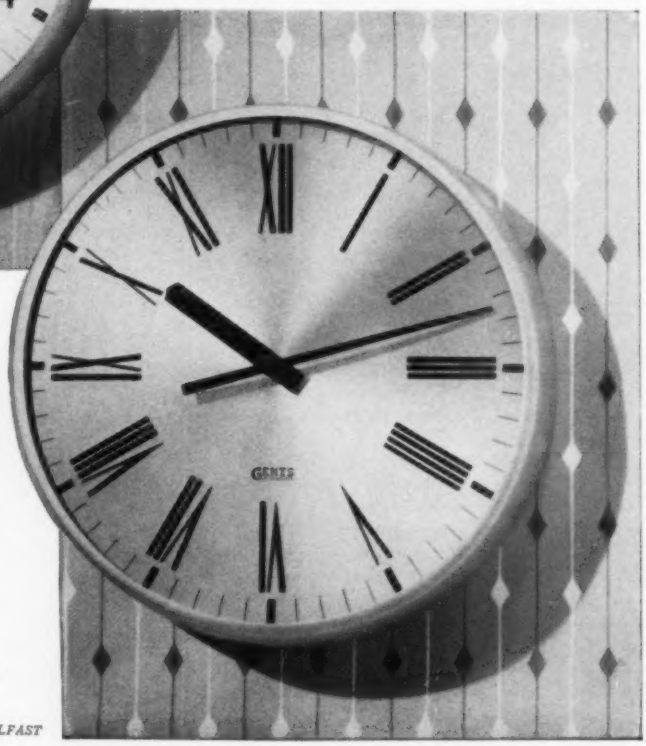


*In every way...Right!*



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# NEWS

## RESEARCH

### Hospital equipment

The Royal College of Art is planning to undertake research into the function and design of nursing and other non-surgical hospital equipment. The research will be directed by L. Bruce Archer who will be working with Professor Misha Black in the RCA's department of Industrial Design (Engineering). The equipment to be investigated covers a wide range and may include items such as patients' beds, lockers, bedside lights, bed-pan washers, sluice room sinks and dustbins. The scope of the enquiry is not limited only to general hospitals, since much of the equipment is used also in specialised institutions such as psychiatric hospitals, sanatoria, children's hospitals, and the medical services of industry and schools. The enquiry recognises that there is also a need for the development of specialised equipment in hospitals and homes for old people.

The first step in approaching the problem will be to define its scope, and to study the contributions which have already been made in this field by research workers in this country and abroad. The Nuffield Foundation has offered £5,000 to the college in the first instance, for a 12 months pilot study of existing knowledge and practice.

### Textile machinery

The Board of Trade, the DSIR, and the textile machinery industry are to carry out a study of research and development in the field of textile machinery. This is one of a series of similar studies of important industries in the UK which the Council for Scientific and Industrial Research has asked its economics committee to carry out. The object of the study, which will be made with the collaboration of the industry, is to help the council to allocate Government resources for research and development. Professor J. J. Vincent, director, Textile Industries Laboratories, Manchester College of Science and Technology, will act as consultant for the research project, which is expected to last for about a year.

## COURSES

### Training in furniture design

The Shoreditch Technical College for the Furnishing Trades has announced a one year diploma course in furniture design and production, which will start in September. Entry to the course will be limited to student designers who have already reached the standard of the NDD or equivalent.

Further details are available from the principal, Jack Kape, Technical College for the Furnishing Trades, Pitfield Street, Shoreditch, London N1.

An important exhibition of students' work is to be held at the college from July 3 – 8. On display will be furniture and furnishings for an LCC flat, furniture for the college's new boardroom, and a large lectern for use at college functions.

### Scottish wool

A new Scottish Woollen Technical College, is being built in Galashiels, and will offer courses of associateship and diploma standard in textile design and

*continued on page 85*

**Presenting the awards**

TOP *The exhibition of the 1961* Design Centre Awards *and Duke of Edinburgh's* Prize for Elegant Design, *held at The Design Centre recently.* ABOVE, *Peter Cuddon, designer and manufacturer, receiving his awards. At the presentation ceremony the Duke discussed the problems facing the selectors: "Several manufacturers are inclined to say that the choice which The Design Centre makes does not necessarily mean that the thing will sell and that very often a traditional design will sell much better. This may be perfectly true . . . but it is equally important to remember that The Design Centre, and people concerned with design, are concerned with the general rather than with the particular: you can always pick holes if you go into generalities. If manufacturers have got a traditional design that is going well I very much hope they do not use that as an excuse for stopping further experiment".*

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technology. The first course will start in September, and will be a full time four year course for the associateship of the college. Full details are available from the principal, J. G. Martindale, Scottish Woollen Technical College, Galashiels.

## MISCELLANEOUS

### Posthorns and doves

For the second time, representatives of Post Offices from 19 West European countries selected a theme for stamps in uniform designs to be released in honour of the Conference of European Postal and Telecommunications Administrations. The emblem will thus be featured on letters from countries ranging from Iceland to Turkey. Following the 19-spoked wheel design from Finland (winner of the 1960 contest) come two emblems which may alleviate the

uniform and somewhat dull appearance of the 1960 issues. Theo Kurpershoek (Holland) drew a spirited dove composed of 19 smaller birds, ABOVE, while Michael Goaman (Great Britain) produced four interlinked posthorns containing the initials CEPT, BELOW.

The posthorn motif is not a novel one, and the symbol sacrifices something of its clarity both by the arrangement and by the fact that the loops (treated

as plain circles) are not immediately recognisable as belonging to the surrounding trumpets. Modifications are, however, being incorporated by the artist.

Both dove and posthorns will be featured on the three British CEPT stamps to be released by the GPO on September 18; these will carry (in addition) the obligatory royal portrait. EDGAR LEWY

### Under observation

The recently reconstituted Advertising Inquiry Council is opening its membership to any member of the public who "feels strongly about the effect of present day advertising methods". *Scrutiny*, a monthly periodical of information and criticism, will be sent to all members subscribing £1 a year. Further information is available from the acting chairman, Francis Noel-Baker, MP, Advertising Inquiry Council, 49 Cresswell Place, London SW10.

## APPOINTMENTS

### Editorial adviser

Antony Armstrong-Jones, who joined the CoID in January has been appointed an editorial adviser to DESIGN.

### Diploma council

The membership of the National Council for Diplomas in Art and Design was announced recently by the Minister of Education. The chairman of this council, which is to administer the diploma, is Sir John Summerson. The other members include: Professor R. W. Baker, art director, Worcester Royal Porcelain Co; Robin Darwin, principal, Royal College of Art; James Fitton, painter, director of an advertising firm; C. H. Flurscheim, director and chief electrical engineer, AEI (Manchester) Ltd; Professor R. Y. Goodden, professor of silversmithing and jewellery, Royal College of Art; L. Gowing, principal, Chelsea School of Art; Mary Grieve, editor of *Woman*; Nikolaus Pevsner, head of department of history of art, Birkbeck College; E. E. Pullee, principal, Leicester College of Art; Professor K. Rowntree, professor of fine art, King's College, Newcastle; Sir Gordon Russell, formerly director, CoID; D. H. Tomlinson, director, Cotton Board Colour, Design and Style Centre; and Audrey Withers, formerly editor of *Vogue*.

### New member

The CoID welcomes a new member of Council recently appointed by the President of the Board of Trade in F. E. Shrosbree, general secretary, Association of Building Technicians.

### Purchasing president

Peter Emery, parliamentary private secretary to the Minister of State at the Foreign Office, has been appointed director of the Purchasing Officers' Association.

### The art workers

Sir Gordon Russell has been elected Master of the Art Workers Guild for 1962. The guild, which has a membership of 300, aims to promote "the unity, the interdependence, and the solidarity of all the arts".

### Aluminium announcement

Gerald Lacey, assistant managing director (overseas) of The British Aluminium Co Ltd, has been appointed president for 1961-62 of the Aluminium Development Association.

## EXHIBITIONS

### Living design

Northampton Museum's recent exhibition of international design, *Design Alive*, followed, in miniature, the example of New York's Museum of Modern Art, and was an exercise in appreciation.

The guiding forces behind it were the town's Arts Association and designer William Girling. Mr Girling's aim was for the exhibition to be neither commercial like a store display, nor comprehensive like The Design Centre, but to show that modern

### Jets for top brass

*Another light aircraft designed to meet the needs of the business executive (cf* DESIGN 150/45*) has recently been announced: it is the de Havilland* Jet Dragon DH125, *deliveries of which will begin in* 1963. *The* DH125 *(the illustration shows an artist's impression), will carry two crew and six passengers at speeds of up to 500 mph.*

design *exists*.

The best integrated displays were those devoted to Denmark and Finland. Each consisted of a dining table and accoutrements: Hans Wegner furniture and Arne Jacobsen cutlery from Denmark; black china and purple place mats on a pale beech table from Finland.

In some of the other displays, the range of objects was wider and needed space that was not available. The British section suffered particularly in this sense because of the great effort that had been made to get objects not in the shops. Sir Hugh Casson's chairs for the P & O – Orient Line *Canberra*, a model of Vickers' *VC10* jet airliner and John Hutton's glass engraving of St Chad for Coventry Cathedral are, after all, uncompromising neighbours.

The American group was outstanding for its balanced colour: off white floor tiles, rich grey marble and steel tables, grey plastics chair and lurid, intestinal stove-enamelled paintings.

The Japanese collection was least representative of good design – a measure perhaps of the extreme difficulty of gathering bulky objects from afar.

In all, designs from eight countries were shown and excellently labelled throughout.

T. M. P. BENDIXSON

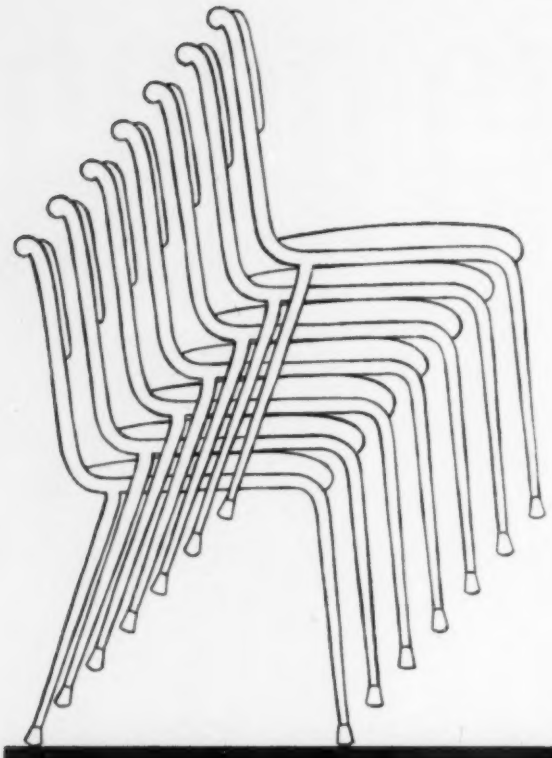
### Exchange visit

An exchange of exhibitions between Sweden and Great Britain is being arranged for the autumn by Svensk Form, Stockholm, and the CoID.

On October 5, a display of the products winning this year's Svensk Form design awards will open at The Design Centre. This is the first year that these awards have been made, and the first time that the CoID has shown foreign goods. Paul Reilly, director CoID, will be one of the selection panel for the awards.

In return, an exhibition from The Design Centre will open at the Svensk Form exhibition hall in

*continued on page 87*



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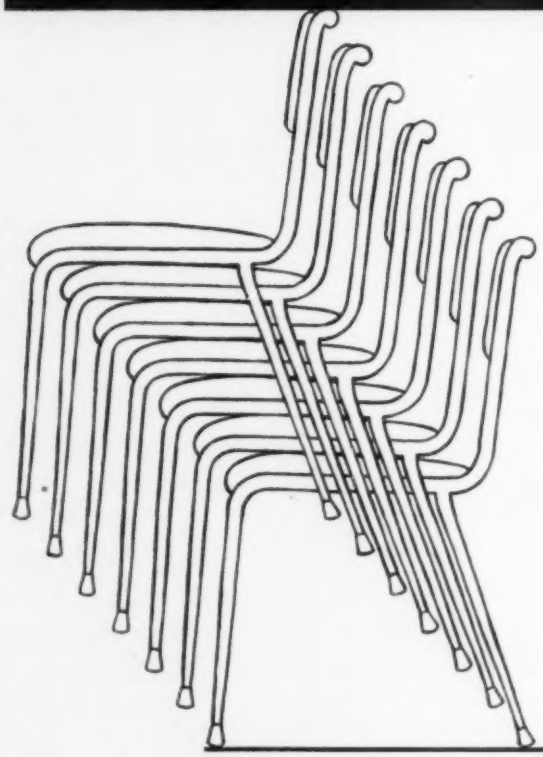

. . . plus comfort and elegance. The FW2 is a chair that can be stacked away easily when not in use, yet can always be counted on to provide excellent comfort. The steel frame is styled in tapered tube, rust-proofed and stove enamelled in a wide range of colours. Fitted plastic ferrules on the legs, save carpets and floor surfaces. Seat and back are upholstered in either Vynide, Lionide or Everflex P.V.C. leathercloths. Moquette coverings can also be supplied at extra cost.

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Stockholm on October 18. This display will consist of all the products which gained *Design Centre Awards* in 1961, plus a selection from previous years' winners, making a total of some 40 exhibits. In addition, displays of British goods are planned for retail stores in Stockholm to tie up with the Svensk Form display. It is hoped that other exchange exhibitions of annual award winning products from abroad will follow.

As well as these exchange displays, there will be two complete overseas touring exhibitions of the 1961 *Awards* (sponsored by the Board of Trade). One of the exhibitions is to visit Australasia, and displays will be on show in Adelaide (July 24-29), Melbourne (August 6-12), Launceston, and Hobart; the other exhibition will tour the United States in August.

### US in London

The new United States Trade Centre in St James Street, London SW1, was officially opened last month. Its first exhibition, which closes on August 4, is a display of American household goods. Subsequent displays will feature food products and clothes.

These exhibitions, will be open to the public, but their principal aim will be to provide a centre where retail buyers can see American goods (many of them new to this country) that are now available on the British market.

### Co-ordinating trade literature

This year, the organisers of the *Building Exhibition*, which is to be held at Olympia from November 15 – 29, are recommending exhibitors to co-ordinate their presentation of trade literature. A working party consisting of Egil Nicklin (chairman of the SfB classification committee), Ingvar Karlen and John Brunton, two experts in this field, has recommended that the A4 ($11\frac{3}{4} \times 8\frac{1}{4}$ inch) international paper size should be adopted, together with the SfB system for classifying trade and technical literature, and specifications relating to the building industry.

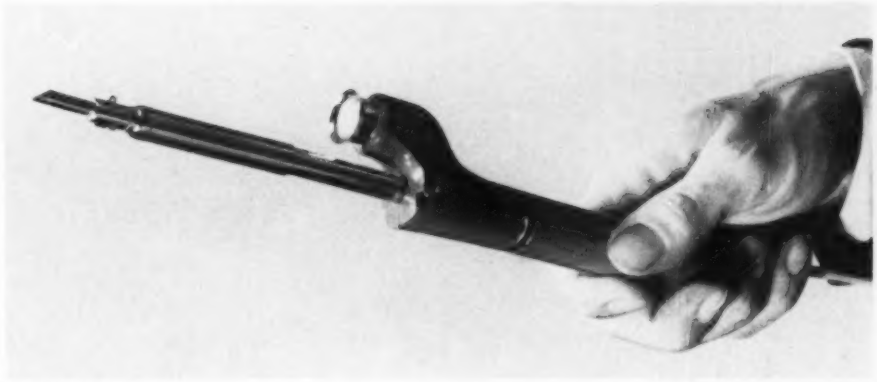
### Soliciting design interest

A current exhibition at The Design Centre shows a solicitor's office, with its waiting and secretarial rooms. The room settings are designed to give the traditional feeling of solidity and permanence, using simple and uncluttered furnishings, and up to date and efficient equipment.

The exhibition has been designed (in conjunction with the Law Society, which has done considerable research on the problems involved) by R. D. Russell and Partners; and there is a supporting display of general office equipment.

### At home . . .

*Russian Trade Fair*, Earls Court, July 7-29.
*International Watch and Jewellery Trade Fair*, Earls Court, September 25-29.
*British Sports Trade Fair*, Berners Hotel, Berners Street, London W1, November 6-9.
*Medical Exhibition*, Royal Horticultural Society's New Hall, November 13-17.
*Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition*, Earls Court, November 13-18.
*Royal Smithfield and Agricultural Machinery Show*, Earls Court, December 4-8.



**Out of the 'Index'**

*This electric soldering iron, made by Pifco Ltd, which was illustrated in* Review of Current Design (DESIGN 140/44), *has since been removed from 'Design Index' following tests by the magazine. The manufacturer points out that the iron has been withdrawn from the market and that a new design is to be introduced.*

### . . . and abroad

*International Exhibition of Applied Arts*, Tel Aviv, September 3 – October 2 (apply the director-general, Near East Exhibitions Co Ltd, PO Box 3259, Tel Aviv, Israel).
*International Motor and Motor-cycle Show*, Paris, October 5-15 (R. C. Liebman, 178 Fleet Street, London EC4).
*1961 Atom Fair*, Chicago, November 6-9 (Exhibit Department, Atomic Industrial Forum Inc, 3 East 54th Street, New York 22, NY).

## LETTERS

### Anniversary accolade

Sir: I have just realised that the next issue of DESIGN will be number 150. Your hundredth was a century and your fiftieth a Golden Jubilee, but I hope that this anniversary will not go unsung.

Please accept my congratulations for the splendid publication which so many of us look forward to each month and then eagerly read. It certainly goes from strength to strength.

Best wishes, and onwards to your next century!

R. M. KAY
Industrial Design Engineer
AEI (Manchester) Ltd
Trafford Park
Manchester 17

### Oil heaters and fire risks

Sir: Our interest in the type of heater described in the *Design Analysis* article (DESIGN 147/66-71) has been in assessing the extent to which it might cause clothes to catch fire. Such cases have increased in recent years (out of 127 admissions to our Burns Unit in 1959, 19 were attributed to oil heaters, as compared with five out of 104 in 1958 and six out of 103 in 1957), corresponding – I presume – to the increased use of such appliances; but we have no reason to believe that they are more dangerous than other types of open flame – the cases admitted are smaller in number than those due to other types of fire.

One other aspect of interest is their rôle in causing fires in structures. This has been investigated by the DSIR Fire Research Station. A feature of this design which I believe is not mentioned in the article is that with gravity feed, heating of the kerosene reservoir is likely to cause an increased flow of fuel: this was evident in the Fire Research Laboratory's film, which shows kerosene forming a pool under the heater, which then ignited and caused further escape. This danger seems inherent in any gravity feed, and I wondered whether the design described in the article had been examined from this point of view. I imagine that the metal covers might help to protect the fuel from heat, and perhaps the provision of two separate reservoirs may limit the risk. It would seem that any device in which fuel stands at a higher level than the flame, and moreover is retained at this level by differential air pressure, must be intrinsically more dangerous than other devices using wicks, etc, which deliver fuel by capillary attraction.

DR J. P. BULL
Director
MRC Industrial Injuries and Burns
Research Unit
Birmingham Accident Hospital
Birmingham 15

### Alliance for ergonomists

Sir: I would like to compliment Dr Tomás Maldonado for his suggestion for a *rencontre* between industrial designers and ergonomists (DESIGN 144/75). It might counteract the growing tendency among designers, and engineers too, to regard ergonomics as nothing more than the application of an anthropometric figure to drawings.

This oversimplification of ergonomics is, I suspect, largely due to the desire of those in the discipline to have it accepted. Since ergonomics is established quite firmly (at least here in the United States) as another design tool, it is now necessary

*continued on page 89*

*The "Margam Abbey"—built for the Port Talbot Pilotage Authority by Richard Ironworks Ltd., in which Cor-Ten was used extensively. Photograph by courtesy of the Port Talbot Pilotage Authority*

# COR-TEN GOES DOWN TO THE SEA IN SHIPS

At sea as well as ashore new uses are constantly being found for SCW Cor-Ten. It was used extensively in the construction of this vessel for the Port Talbot Pilotage Authority.

The Main Deck and Bulwark Plating
Shell Plating and Anchor Recess
Floors and Engine Seating
Chain Locker
Fresh Water Tank
Bulkhead Bottom Plating
Rudder Side Plates

**—were made entirely from Cor-Ten.** A typical example of the growing use of Cor-Ten in marine construction, and in other fields where high yield strength, together with outstanding resistance to corrosion, is vital.

## COR-TEN IS TOUGHER

Weight for weight, the yield strength of SCW Cor-Ten is 50% higher than ordinary mild steel.

Alternatively—
Strength for strength, a saving of 1/3 of the weight is possible.

4-6 times more resistant to atmospheric corrosion.
Highly resistant to abrasion and fatigue.

## COR-TEN SAVES MONEY

Initial costs are spread over a longer service life.

Maintenance costs are reduced.

Operating costs are lowered—in transport, payloads are bigger because of reduction in tare weight.

*Please write to us at the address below for further information or for technical assistance in the application of SCW Cor-Ten to your products.*

**S·C·W BRAND Cor-Ten**

**RAILWAY ROLLING STOCK. AGRICULTURAL AND EARTH-MOVING EQUIPMENT. MINE CARS. POWER STATION INSTALLATIONS. BARGES AND SMALL CRAFT**

## THE STEEL COMPANY OF WALES LIMITED

Sales Offices: United Kingdom—Abbey Works, Port Talbot, Glamorgan. Overseas—Margam House, 26 St. James's Sq., London, S.W.1

that the complexities of data quantification in the discipline be fully recognized and explored. The industrial designer may find he is more capable than the ergonomist in operating in those areas beyond quantification.

But a word of caution against an alliance of industrial design and ergonomics – an optimum design is based on an alliance of aesthetics, ergonomics, economics, and engineering.

JOHN F. CHRISTIAN
Human Factors Engineer
U S Army Engineer Research and
Development Laboratories
2401 H Street
Washington 7, DC
USA

Editor's note: "A *rencontre* of the sort described by Mr Christian is in fact to take place at the CoID in November, when a private meeting of the Society of Industrial Artists and the Ergonomics Research Society will be held to explore ways of working together more closely".

### Umbrellas unbowed

Sir: Why is Richard Hamilton so rude to the umbrella stand illustrated in DESIGN 149/44? It seems to me light, elegant, practical and economical of material. The central shaft should not look out of scale when the stand has sticks and umbrellas in it, as it always will, and the ball on the top, which is, I suspect, the main source of Mr Hamilton's irritation, will no doubt be quite satisfactory functionally when one wants to move the stand.

CHARLES TENNYSON
23 The Park
London
NW11

### Stamp for unity

Sir: I must apologise to Lynton Lamb (DESIGN 148/89), and perhaps to other DESIGN readers for a *lapsus linguae* when I wrote that it is possible to "*unite* the Royal portrait with a pictorial subject" (DESIGN 149/61), when perhaps I should have used the word "accommodate". Mr Lamb demonstrates his view on the subject in his current British high value postage stamps; these have perhaps reached the limits of pictorial division, since he accommodates the portrait not only in a panel, but further walls in the views in mural embrasures. In the single stamp size, only a medallion enclosing the portrait can be tolerated if a pictorial subject is also used.

My comment was, however, aimed at the GPO, which continues to contend that in a single stamp size it is a question of *either* monarch *or* picture, but not both. Michael Goaman has proved that both are possible. As such the low value Kenya stamps surely deserve notice.

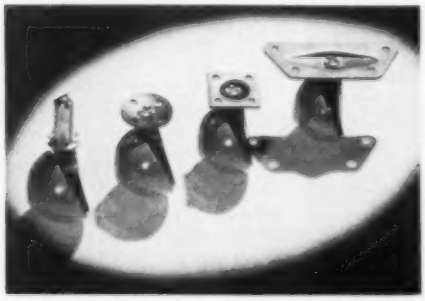
Designers are unfortunately severely hampered by the 'political' precepts ruling the GPO's attitude to stamp design, which insist that the monarch's head must be the dominating feature, so that the tradition of omitting the name of the issuing country can continue to be justified. Further, the portrait now available to stamp designers is now 10 years old, and other, and perhaps better ones exist. The rule is not inflexible (as witnessed by the 1s 3d Coronation stamp of 1953—one of the most successful designs of the current reign), but so far no designer has been allowed to take his courage in both hands and actually *design* both stamp and portrait as a unity.

There may now, however, be an opportunity for some change and/or improvement. After all eight new designs are due in the early autumn.

EDGAR LEWY
Flat 1
54 Aberdare Gardens
London
NW6

### New fittings

*The* Orbit *castors made by Joseph Gillott & Sons Ltd, which gained a 1961* Design Centre Award (DESIGN 150/51) *are now available with four different types of base fittings. In addition to the original square base plate, there are three other fittings for more specialised use – an angle plate for settees and heavy furniture, a fitting for round legged furniture, and a socket for slim legged furniture.*



### The crass designer

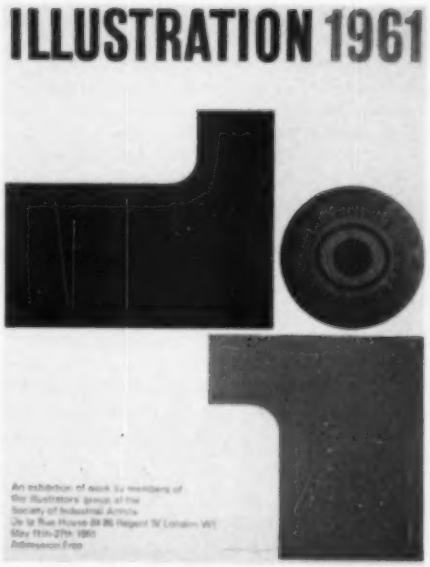
Sir: DESIGN comes into our house regularly each month and my husband has repeatedly urged me to put down in black and white my many outbursts of indignation at the crass stupidity of designers of many articles of domestic use.

Here is a list of a few of the items that infuriate me: *teapot lids* with a crevice that becomes stained and is the very deuce to clean; *gas stoves* with grooves for the oven shelves that are a fraction too small for the average housewife to clean – just a little more thought in the spacing would save the housewife much annoyance and simplify that most beastly of chores, cleaning the oven; *milk jugs and teapots* – however expensive – which drip all over the clean table linen; *kitchen utensils* (fish slices in particular) with such heavy handles that they promptly topple over on to the floor when they are rested on a saucepan; *washhand basins* with overflow slots which are too narrow to clean properly and with inaccessible spaces under the taps – I always pinch my fingers at least once every time I clean ours.

Again I am infuriated by those topheavy packets of detergents which are always falling over and spilling their contents; those packets with dotted lines and instructions to "Press here to open" (the dotted line means nothing and after much pressure and a broken nail you succeed in tearing a hole); those tins with knife edges, and the lush looking packets containing mostly broken biscuits.

It seems to me there are many designers who can draw pretty pictures without a thought for the practical use to which these articles will be put by a busy family. Here and here only comes the final test of any design.

GWENNA M. TAYLOR
169 Preston Drive
Brighton




**I for an eye**

*Peter Gauld designed this poster for the Society of Industrial Artists'* Illustration 1961 *exhibition held recently at De la Rue House; a motif of two I's with a common dot is carried out in orange and black.*

### The gynæcologist chose the curtains

Sir: May I express strong objection to your implication (DESIGN 147/37) that only a professional designer can be trusted to have good taste? What utter nonsense. The "drear and conventional curtains" chosen by the offending gynaecologist were almost certainly designed by a qualified designer. So were the advertisements which two of your correspondents deplore in the same issue (DESIGN 147/87). So are three quarters of the new buildings in London, which the designers of the other quarter furiously condemn.

Design is a branch of art which has never been the exclusive prerogative of the professional. If you wish to exclude the layman from the mysteries of design, why do you invite him into The Design Centre? I was not asked if I was a professional before you granted me an annual subscription to your excellent journal.

The matron, the bursar, the publican and the rest conceal among their ranks a great number of people interested in good design, and they are as competent to choose the new curtains as the archi-

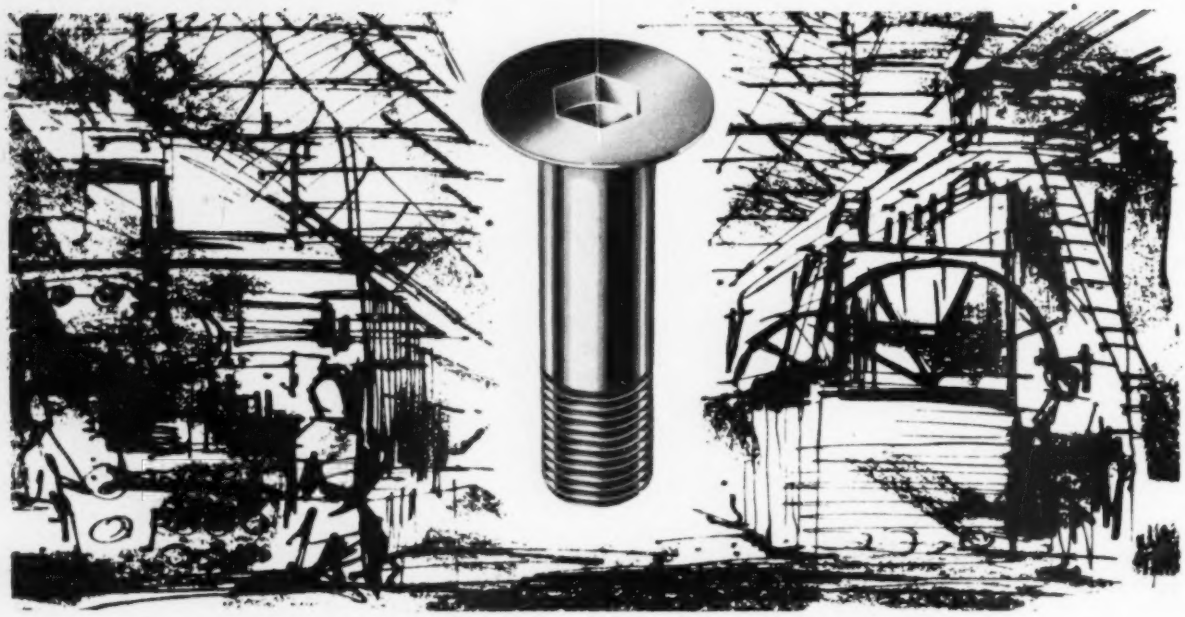
*continued on page 91*

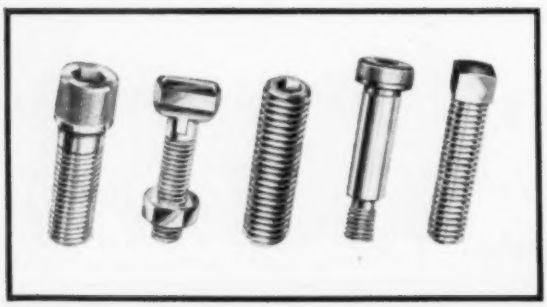
# The screws with the fourth dimension

Any screw can present a faultless appearance. It can be measured optically, microscopically, scientifically, yet the vital dimension escapes physical detection.

That dimension is in-built performance. A basic characteristic of Unbrako screws which is proved by a negative. The fact that Unbrako screws do NOT fail industry even when subjected to the most prolonged of gruelling conditions.

Reliability stems from research. No screw in the whole wide world is backed by more research than Unbrako.





Unbrako high-performance countersunk screws are made in a vast range of sizes and threads to cover every need.
A descriptive brochure is yours for the asking.

**UNBRAKO**

**UNBRAKO SOCKET SCREW CO LTD COVENTRY TEL: 89471**

ALSO MAKERS OF: CAP SCREWS · BUTTON HEAD SOCKET SCREWS · COUNTERSUNK SCREWS · WEDGLOK SCREWS · PRESSURE PLUGS · RING BOLTS · SET SCREWS · SHOULDER SCREWS · SQUARE HEAD SET SCREWS · T BOLTS · T NUTS · SEL-LOK · STAINLESS STEEL AND COLLARS

UNBRAKO SCHRAUBEN Gm. b. H. KOBLENZ · UNBRAKO STEEL CO. LTD., SHEFFIELD, ENGLAND

tect or industrial designer. If they make mistakes, these can be corrected when new curtains are needed in a few years. The mistakes of the professional who designed the building are not so easy to correct. These will immediately be pointed out with derision by many of his fellow designers and others will notice them in 20 years time, when a new fashion has been introduced by one of the very, very few designers who really originate design and set, from time to time, the standards of taste which all of us, professional designers and laymen alike, try to attain.

D. RODNEY HALSON
23 Lancaster Road
Newcastle
Staffordshire

# BOOKS

### Layton annual awards

*C. & E. Layton Ltd, £3 3s*

The book which illustrates this year's awards is larger and lusher than ever, and has the benefit of a lively layout by Henrion Design Associates. One excellent innovation is that many of the advertisements are shown in their natural setting of a newspaper or magazine, surely the only real way of gauging their effectiveness. (Some fiddling goes on here, though. For example, the 1½ page Hille advertisement which won the Group B Award is shown alongside a half page of editorial in DESIGN magazine, whereas in fact there are no editorial half pages in the magazine).

But all the expertness brought to bear on the presentation of this book only accentuates the mediocrity of much of the work shown. Can the distinguished panel of judges really have selected the 100 advertisements shown here, as is stated in the sub-title? ("100 of the best advertisements entered for the 1961 competition selected by the panel of judges"). *Individually*, one or two of them may have given a preliminary tick to some of the least objectionable among those they were asked to inspect, but *collectively*, the judges were responsible only for the 14 awards given. In this respect the book is very misleading and cannot do other than reflect badly (and unfairly) on the discrimination of the judges themselves.

Another matter for concern is raised by one of the judges, George Him, in his report: "I can only hope that some of our most brilliant achievements in the field of advertising design failed to find their place among the submissions. I noticed the absence of some good work which I have seen in the course of last year. Maybe there is something wrong with the way in which the submitting agencies make their selection for the award."

And again by another judge, Pat Gierth: "In spite of a record entry of 2,000 exhibits, I did not see among them the best work of many agencies whose output I am familiar with, and who were in fact participating. Do agencies take enough care in their selection? As it is a graphic award, do they put the selection into the hands of people capable of choosing on these terms?"

If the judges are worried about this, so am I. Furthermore, the whole idea of an interested party sponsoring awards of this nature, however 'disinterested' it may attempt to be, is always open to suspicion; and although there is no suggestion that the selection was biased in any way, the fact that C. & E. Layton itself had 49 mentions in the credit list accompanying the illustrations does not help. I think the method of organizing these awards, although obviously well meant, is ill conceived.

KENNETH GARLAND

### The Modulor

*Le Corbusier, Faber and Faber Ltd, 12s 6d*

A modular theory, any modular theory, is liable to be condemned by architects today because of its suggestion of standardisation and, to some, the dehumanisation of building which is an apparent consequence. But Le Corbusier's *Modulor*, now reprinted in a paper back edition, describes a system which, unlike most proprietary systems, does not depend on repetition. From his earlier studies of the Renaissance and, particularly the Greek Golden Section, Le Corbusier derived a system of related proportions based on the human figure which he believed would be valid today: an infinite series of related dimensions applicable to furniture or to buildings; a system appropriate to the age of the machine aesthetic which implies mass production, which in turn creates the needs for its own standards. The days, says Corb, of individual egocentric expression have passed.

This is all very well of course if, as has been said, the system makes the bad difficult and the good easy. This is not the case, and its acceptance is not helped by Le Corbusier's own egocentricity and the mystery which surrounds every utterance he makes. Also if the system were rationally and demonstrably related to human beings other than by their physical dimensions, and if it considered their needs within their environment rather than considering buildings as a vehicle (so it occasionally seems) for an elevational exercise, or at best a problem in analytical geometry, we might be convinced. And then the reader still has to wade through a pretty difficult book. But, with no disrespect to the master, the use of the Golden Section, mathematics, and precision taken to such extreme – in other words the Modulor in isolation – can only mean the degradation of art. This is not to deny the need for a more rational approach to design; but the Modulor must be seen in the broader context of Le Corbusier's total theory of architecture. Even in Le Corbusier's hands it is simply an effective and valuable tool. This is its purpose.

ARCHIE MCNAB

### Creative color

*Faber Birren, Chapman & Hall, £4*

This is the second of three companion books by Faber Birren, the American colour consultant, the first being *New Horizons in Color* and the third, yet to be published *Color, Form and Space*. In *New Horizons in Color* the author, in the rôle of business man's consultant, puts forward his version of functional colouring as a kind of psychological weapon for extracting higher sales and productivity in shops, restaurants and factories etc. In *Creative Color* he assumes the role of educator of art students.

In the first part of this book he introduces the student to colour systems, in particular Munsell, Ostwald, and the less well known Ives, and proceeds to elementary colour harmonies. It is of course important that students should be acquainted with and understand the functions of a sound colour system, but it is disappointing to find that Mr Birren's interpretation is confused and misleading. Only one system among the many in existence, Munsell's, is fully comprehensive as the thorough analyses in the *Journal of the Optical Society of America* for December 1940 and July 1943 demonstrate. Others, like Ostwald's, have basic defects, or, like

*continued on page 93*

### Action for exports

*The three prize winning posters in a national competition sponsored by the* Export Action Now *committee of the Institute of Directors are,* LEFT *to* RIGHT, *Dennis Carroll's design which won the 500 gns first prize, T. M. Jacques' poster which was awarded second prize, and Brian Roll's third prize winner. The aim of the competition was to encourage more British firms to export, and the posters will be displayed in banks throughout the country. The competition was organised in co-operation with the clearing banks; Associated TeleVision donated the prizes.*

# Stafford in the Canberra

The requirement was for chairs of good design and sturdy construction, providing a high standard of comfort combined with ease of cleaning and the ability to withstand hard wear over long periods.
This exacting specification was met by Stafford Furniture from their standard range. The immensely strong steel frames (a feature of all Stafford furniture) were sealed with a tough nylon coating for complete protection against corrosion.

Send for illustrated catalogue of the full range and details of contract work.

**STAFFORD**

STAFFORD FURNITURE LTD.

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# PULL TEETH WITH THIS?

*What dentist would use a pair of pliers when he has the choice of many special forceps?*

Special tasks require special tools—drawing office departments cannot use just any pencil, they require *drawing* pencils and leads like the—

**MARS-LUMOGRAPH**
MARS-LUMOGRAPH produces unusually sharp lines of unsurpassed opacity and consistency, and offers drawing offices a greater strength of lead that is durable and easy to erase.
Exact grading of the 19 degrees of hardness is guaranteed by employing strict standards and the most advanced methods of manufacture.
Companions to these unique drawing leads are matchless lead holders we call:

**MARS-TECHNICO-LUMOGRAPH**
For years these holders have been very popular with professionals because of their reliable clutch mechanism. Now their modern, tapered shape and ideal balance represent additional reason for popularity —beyond obvious top quality.

MARS-LUMOGRAPH
drawing pencils in 19 degrees

MARS-LUMOGRAPH
drawing leads in 18 degrees

MARS-TECHNICO-LUMOGRAPH
for 18 degrees

**STAEDTLER**

Trade enquiries to:
J. S. STAEDTLER LIMITED
83 Copers Cope Road, Beckenham, Kent

**CUT ALONG HERE**----------

Please send me a free sample lead for clutch pencils.

Name .....

Address .....

.....

D/1

Ives' which depends on mixture of specific pigments, can only deal with a portion of the whole gamut of colour. Much fruitless energy is spent on arguments about the relative merits of different colour systems, and there is even a tendency for colour consultants to invent their own systems, resulting in much the same kind of muddle as there would be if each designer invented his own dimensional scale.

The second part of the book proposes techniques for achieving pictorially certain visual effects of light and colour, such as luminance, chromatic mist and iridescence. Here the author claims some originality. He acknowledges that he is not the first person to identify or reproduce such effects (Ogden Rood, David Katz, Ralph Evans and others have written about them and great painters from the Renaissance onward have often exploited them), but Mr Birren claims to be the first person to rationalise these effects in terms of a series of colour palettes. Unfortunately several of the illustrations showing the palettes in use are crude and unconvincing. The book is well printed, and it is a pity that the author did not attempt one or two reproductions of acknowledged masterpieces to strengthen his points.

Taken as a whole the outstanding merit of the book is that it draws attention to the striking difference between the inertness of colours seen separately, like words in a dictionary, and the magic of colours juxtaposed like the carefully chosen words of a poem, so that they convey a sense of atmospheric light, texture, and sparkle. For this it deserves recognition, but as a text book for art students it fails, mainly because of the factual inaccuracies and confusion in the first part.

### The vulgarians

*Robert Osborn, New York Graphic Society, 95 East Putnam Ave, Greenwich, Connecticut; Alec Tiranti Ltd, £1 12s*

Readers of *Time, Life* and *Fortune* will be familiar with the slashing, angry drawings of Robert Osborn. The work of this talented, highly emotional artist is almost always used in tandem with those self-critical, quasi-sociological studies of the American character and morals of which the Luce publications are so fond (*Why Are We Drinking So Much?, Is Our Middle-Class Society Going to the Dogs?, Suicide and the Suburbs*, etc). Before it became OK to be anti-conformist (pre-Beatnik, pre-Sahl), Mr Osborn had already made his mark as a savage and 'psychological' cartoonist, in the Grosz and not the Disney tradition.

I have as often been disturbed as impressed by this man's ability, within the confines of an avowedly commercial press, to project by means of broad, linear caricatures, the frustrated, bitter corrosiveness of the American 'types' he likes to go for: usually businessmen or housewives or exurbanites. The impressive thing about him is his resentment, often bordering on fury, which endows the articles he is illustrating with a passion they do not often possess. What disturbs me is a certain mindless quality. He is viscerally revolted by the sum total of the artifacts of American civilisation, so that one feels it is all he can do to contain his angry, sentimental nausea enough to limit himself to a single drawing at a time. Now, obviously unsatisfied with the limited and catch-penny nature of the prose he is usually called to draw upon, he has issued a book.

If all that we
do looks CHILDISH
& winsome
what is HAPPENING
to America
does NOT.....
and this is the point of this book!
We pretend to be VIGOROUS.....
yet we have directed so much of
our effort to irrelevant PRIVATE
consumption & sensuous pleasures -
and have so failed to make a
considered use of our total
resources that our NATIONAL
posture is anything but balanced,
and anything but VIGOROUS!
We are already on the DEFENSIVE
though historically young.
We CORRECT for others' ACTIONS rather
than illuminating the entire world
by the brilliance of our own.
Our sense of PURPOSE ebbs
away and is no longer clear to all
of us and therefore to the world.
We sit like well-to-do toads, dumbly
complacent. Our GREAT public needs
go unsolved & even unattended. Our
heavy trinkets weigh us down &
have immobilized us!

*Four spreads from Robert Osborn's* The Vulgarians

His book is nothing less than a manifesto of his disgust, written in ink attached to caricatures ranging from the dreamily non-real to the naturalistic. The virtues are still there. The drawings - admen, telly-doused housewives, and nondescriptly

*continued on page 95*

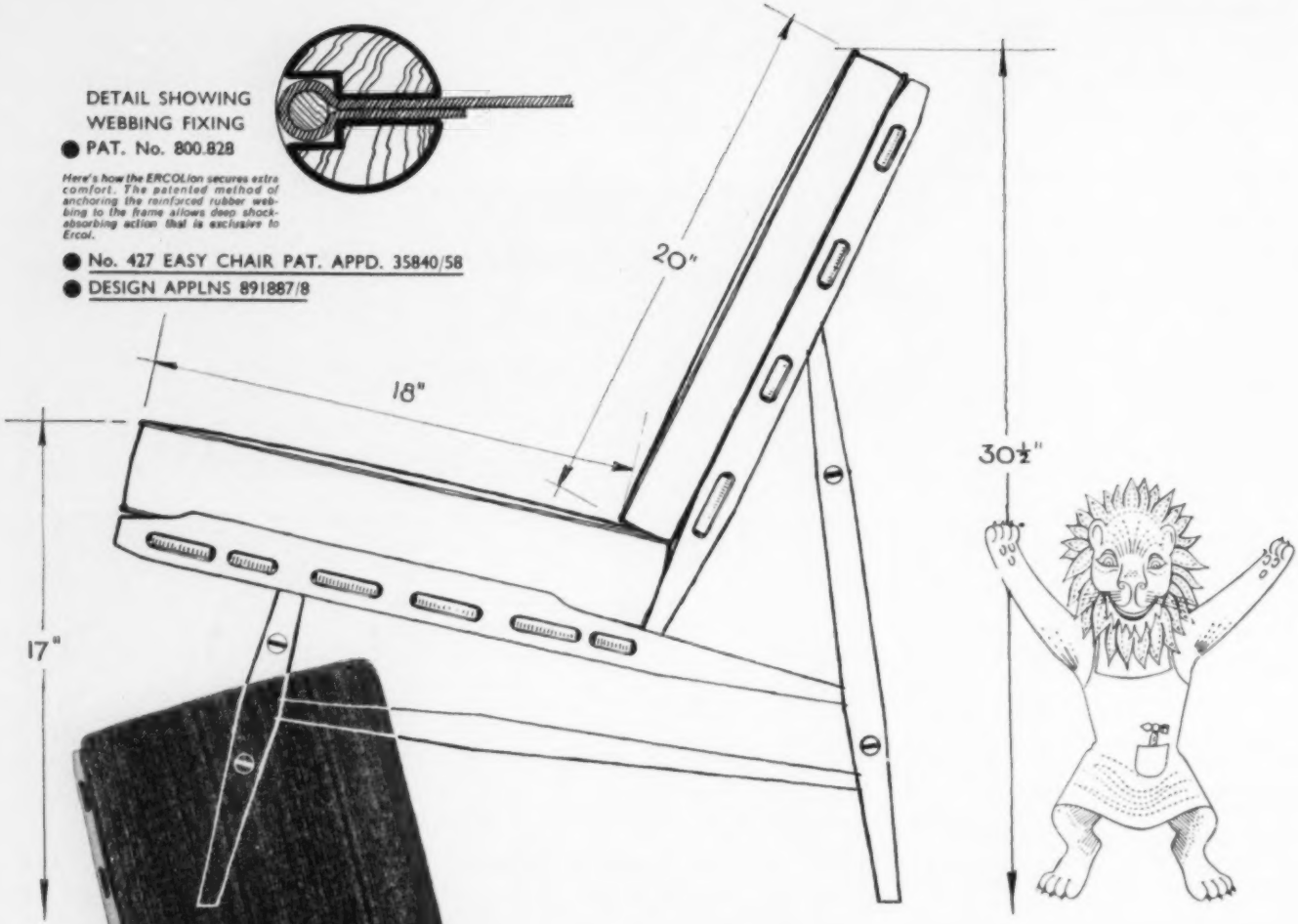
DETAIL SHOWING
WEBBING FIXING

● PAT. No. 800.828

*Here's how the ERCOLion secures extra comfort. The patented method of anchoring the reinforced rubber webbing to the frame allows deep shock-absorbing action that is exclusive to Ercol.*

● No. 427 EASY CHAIR PAT. APPD. 35840/58

● DESIGN APPLNS 891887/8




# The ERCOLion on the anatomy of comfort

"Design for the comfort of the anatomy" began the ERCOLion, "is an amalgam of science and aesthetics. A marriage of form and information. A means of support without obtrusive supporting means. Take my new light but immensely strong Easy Chair. The entire sitting area of the seat and back is completely free of any cross rails. Just resilient rubber webbing (self anchored to the solid Beech frame), supporting deep foam cushions. A hammock-like haven which 'gives' to your body at every point. However you dispose your anatomy you are superbly comfortable as never before, because you are literally 'free-floating'. And as an additional practical comfort", concluded the ERCOLion, "I have provided zip-off cushion covers".

ERCOL FURNITURE LTD · HIGH WYCOMBE · BUCKS

affluent Americans – are hideous, mostly in a good sense. The prose is fairly wild, completely nostalgic and deeply confused. He *hates* the money-grubbing, the absence of contemplation and enjoyment, the semi-monstrous wiliness which breed in an unrestrainedly competitive society. He loves the original idea of America embodied in the achievements of the early prairie-crossing pioneers. The contradiction between the two he loathes, is prepared to fight against, and has very little understanding of. Were I to walk up to him and tap him on the shoulder, "Say, there, old chap, don't you realise that the Fin-Tail Society (Osborn thinks in capital letters) is a reasonably logical outgrowth of that dream held by those simple-minded cabin-builders you honour?", he would probably punch me in the nose or go home and draw a cartoon of a stinking, non-feeling egghead cut off from his roots. Not that he would be so far wrong, but that is not my point, which is, that unlike similarly combative artists of cartoon and caricature (Grosz, early Shahn, Richter, Feiffer), Osborn seems able to deal only with abstracts of his anger, touching upon real details only to furnish a kind of skeletal framework for his emotions. What he seems unable to do is to join the specific natural detail with an aimed, however broad, well-digested and calmly understood, however expressed, aggressiveness.

The book is interesting as a good man's reaction to a bad society. It is off-putting if we judge it by the traditional criteria of the cartoonist's art, that it should not simply exploit, but should go beyond the easy target toward the goal of enhancement and non-static stimulation.

One example, a fair one I think: opposite a photograph of the autotycoon, Henry Ford I, the artist quotes Ford with deep approval to the effect that business is a public service, and should do good and not make an "awful profit". Fair enough. Unfortunately Osborn seems unaware that the logic of Henry Ford's obsession with simplicity in an unsimple age goaded him into a narrow minded provincialism that came near to Fascism. Although I do not think Mr Osborn likes to think so, *even* pioneer visions are not simple things. CLANCY SIGAL

### Consuming interest

*Leslie Adrian, Hutchinson and Co, 15s*

"Leslie Adrian is a fussy, voluble perfectionist who would like everyone else to be, too. That is the reason for *Consuming Interest*." This description in the preface is misleading, because it suggests a crashing bore, which Leslie Adrian certainly is not. The weekly column in the *Spectator* is still flourishing after four years because it is witty and provocative enough to interest a bachelor in nappy services or a vegetarian in bacon. It is an effervescent column – enthusing, condemning, unearthing information on anything likely to benefit the consumer, without fear of come-back. Sparks fly off in the correspondence columns, angry manufacturers hit back, other contributors chip in, mistakes are made and rectified. And Leslie Adrian keeps stirring up the hornets' nests on behalf of everyone who cares for value.

The articles have just been printed in book form – condensed, revised and brought up to date. Bound within hard covers and reinforced with two useful indices, they change their character somewhat – they lose their original urgency and spontaneity and take on a more encyclopaedic air. This is a book to dip into and to refer to, to keep alongside *Which?* and *Shoppers' Guide*. (Some blank pages at the end would have been useful for notes and additions.) It is arranged under five headings – *Helping, Homemaking, Travelling, Shopping* and *Eating*. They are all entertaining and useful, but I suspect that the first section, on services of every kind, will be thumbed through the most, because this information is almost impossible to come by elsewhere.

The condensing process has cut out the thinner weeks, when a little had to go a long way, and fortunately retained the anecdotes, personal preferences and prejudices, and with them the lighthearted air of the originals.

For the sake of all fussy, would be perfectionist shoppers, I hope this book will be enlarged and revised periodically. It is a gold mine of good sense.

DOROTHY MEADE

**Private view**

*Tandy, Halford & Mills Ltd designed this 20 seat cinema (intended for the showing of advertising films on the screen and on closed circuit television) as part of its work on the interior designs for the offices of Hobson, Bates & Partners Ltd, the advertising agent. J. D. H. Catleugh and Alan Henderson were the assistant designers.*

### Victorian comfort

*John Gloag, A. & C. Black Ltd, £2 10s*

Voluptuous chairs and sofas bouncing with coiled springs first appeared in English houses in the 1830's. Information such as this, drawn from contemporary trade magazines, *Punch* cartoons, the novels of Dickens or Mark Twain, and years of observation, are used by John Gloag to evoke the Victorian *milieu*. The resulting picture is *Victorian Comfort – A Social History of Design from 1830-1900.*

The book considers middle class life alone. (The discomforts of Victorian misery in the tenements or of Victorian idealism reflected by the life of General Gordon are noted but dismissed.) As such it does a splendid job of arranging good Victorian design such as the hansom cab, "a piece of English architecture, a symbol of a certain reckless comfort", with bad – Scott's Albert Memorial, "a model for a pastry cook's pagoda".

Mr Gloag uses such contemporary comments widely. Through them, he touches most aspects of material life. "American common sense chairs" (rockers) and salivaria, steam-ships and railway coaches, Christmas crackers and church memorials– all get strung together like beads on the unifying string of comfort. Only the female corset, thrusting the liver into the region of the bowels in the cause of vanity, interrupts the social current.

The picture is fascinating and complete. With its numerous illustrations it is a curious catalogue of good design and ugliness. T. M. P. BENDIXSON

### Books received

What's Where in London, *Denys Parsons, Kenneth Mason Publications Ltd, 6s.*

Architectural Presentation in Watercolour, *Chris Choate, Chapman & Hall, £5.*

### Addenda

DESIGN 147/53: the *Prestige* saucepan illustrated is priced at *£1 9s 6d*, and its model number is *Prestige 8614.*

DESIGN 149/72: Danasco Ltd is the importer of the Böras Wäferi *Trema* fabric (*BW7206, design 6861*).

DESIGN 149/62: the *Pacemaker* fluorescent light fitting (illustration 30) was designed by Peter Bell.

## DESIGNERS *in this issue*

F. C. Ashford, MBIA; Professor Misha Black, OBE, RDI, MINSTRA, FPSIA; S. W. Buckingham; Margaret Calvert; Dennis Carroll; R. D. Carter, MBIA; Sir Hugh Casson, RDI, MA, FRIBA, FSIA; J. D. H. Catleugh; Hulme Chadwick, ARIBA, ARCA, FSIA; Peter Cuddon; A. R. B. Dow, MBIA; Jim Downer; R. W. Freeborn; Peter Gauld, FSIA; William Girling, MBIA; Michael Goaman, MBIA; Kenneth Grange, FSIA; Alan Henderson; John Hutton; Roy Ireland; T. M. Jaques, LSIA; Jock Kinneir, FSIA; Beverley Pick, FSIA; Brian Roll; Ellis Somake, FRIBA, DIPARCH, FSIA; Tandy, Halford & Mills; N. Thual; Wilkes & Ashmore.

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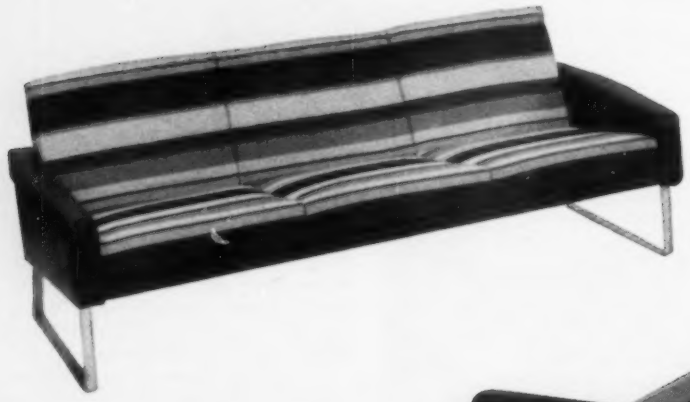

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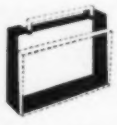

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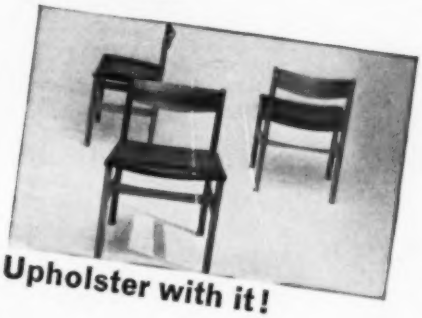

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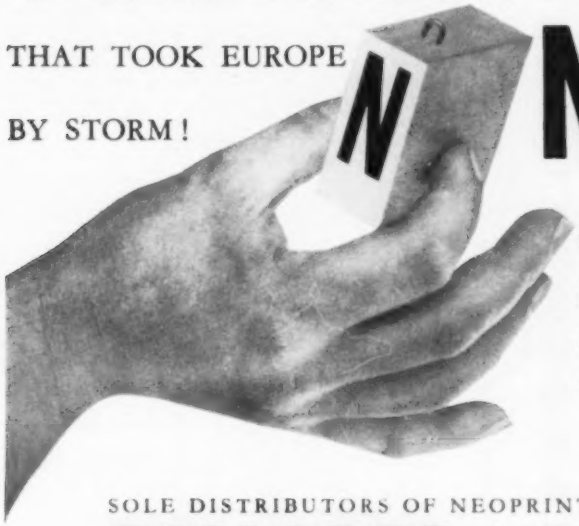


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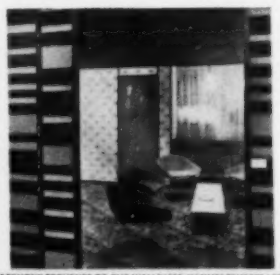

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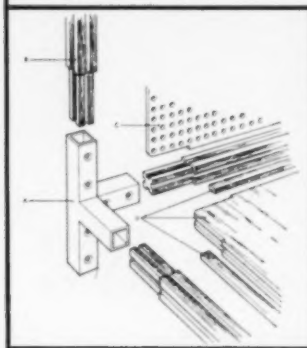

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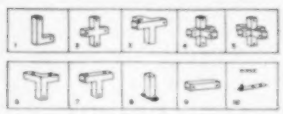

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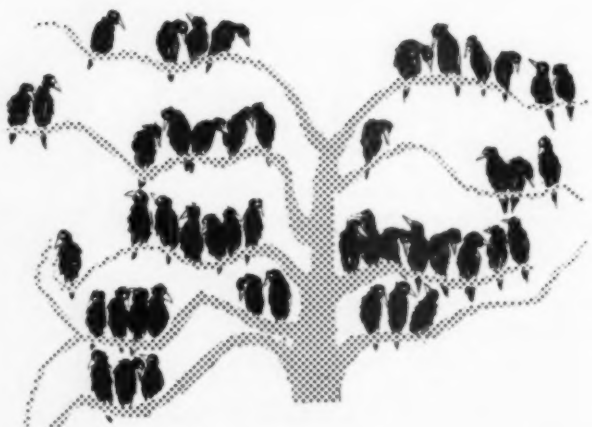

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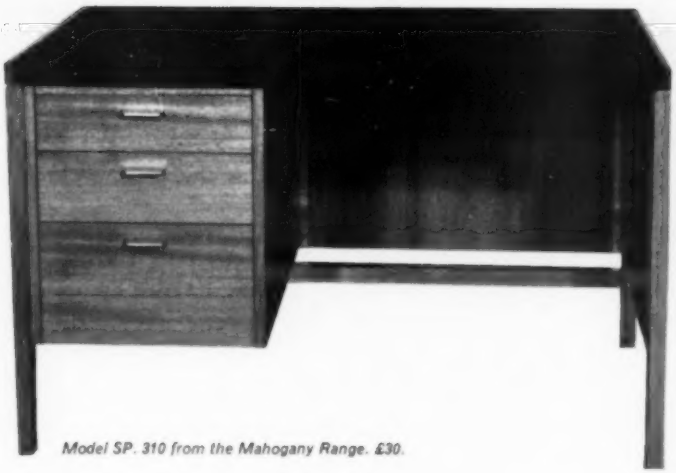

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Leeds Education Committee

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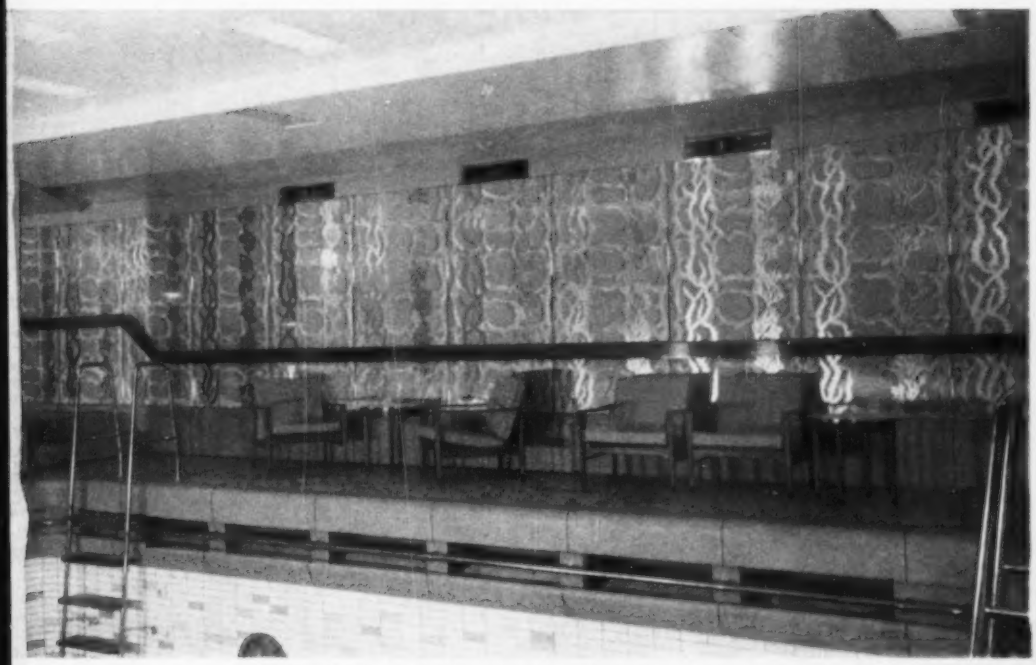

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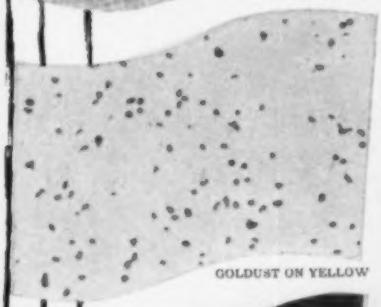
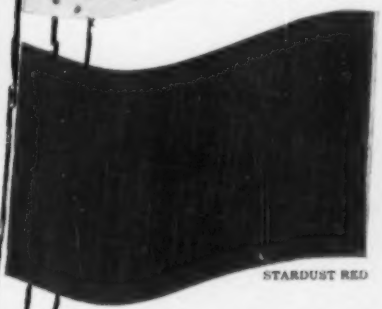
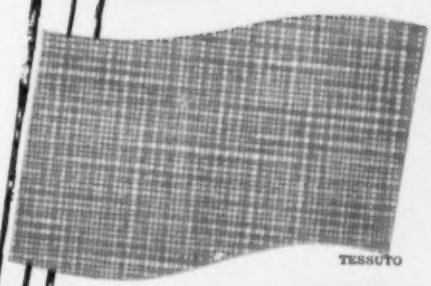
STARDUST GREEN 730



GOLDUST ON YELLOW



STARDUST RED



TESSUTO

DIABOLO

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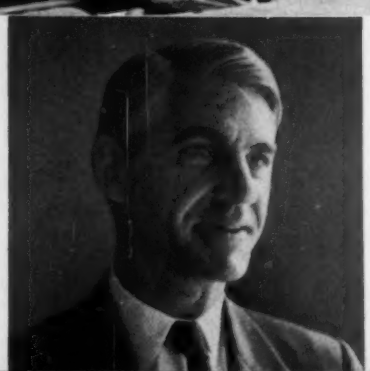
*These flags represent some of the many standard* WARERITE *patterns available.*

THE NAME WARERITE AND THE TREFOIL SYMBOL ARE REGISTERED TRADE MARKS OF BAKELITE LIMITED. TGA W134A



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